



**COMMANDER'S GUIDE
BEST PRACTICES AND LESSONS LEARNED**

**WHITE SANDS MISSILE RANGE
KWAJALEIN MISSILE RANGE
YUMA PROVING GROUND
DUGWAY PROVING GROUND
ABERDEEN TEST CENTER
NATIONAL TRAINING CENTER
ELECTRONIC PROVING GROUND**

**NAVAL AIR WARFARE CENTER WEAPONS DIVISION
NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION
NAVAL UNDERSEA WARFARE CENTER DIVISION, NEWPORT
PACIFIC MISSILE RANGE FACILITY
NAVAL UNDERSEA WARFARE CENTER DIVISION, KEYPORT**

**30TH SPACE WING
45TH SPACE WING
AIR FORCE FLIGHT TEST CENTER
AIR FORCE AIR ARMAMENT CENTER
ARNOLD ENGINEERING DEVELOPMENT CENTER
BARRY M. GOLDWATER RANGE**

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BEST PRACTICES AND LESSONS LEARNED**

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Commander's Guide Best Practices And Lessons Learned

Introduction

The mission of the Range Commanders Council (RCC) is to serve “*the technical and operational needs of U.S. test, training, and operational ranges.*” The Sustainability Group (SG), founded in 2000, is one of many RCC workgroups. The SG meets twice each year to review and discuss the latest issues affecting the ability of installations and ranges to sustain their missions and shares tools for proactively addressing these concerns. SG efforts focus on outreach, land use, urban growth, and other sustainability areas.

Based upon member input, the RCC SG decided to compile Best Practices and Lessons Learned from installations and ranges. The Chair of the RCC SG briefed the RCC Executive Committee and a “Best Practices Sustainability Survey” was sent through RCC Channels. A draft of this document was released at the February 2005 RCC Meeting. The survey request was distributed to all Southeast Sustainable Ranges Workshop Attendees. The RCC SG continues to collect best practices and lessons learned. If you have information to share or believe that this collection is incomplete, please contact the RCC Secretariat at rcc@wsmr.army.mil.

Purpose

The purpose of this process was to document the successes of installations and ranges in effectively dealing with sustainability (encroachment) issues. This cross-sharing of information has already enabled some installations to further advance their efforts.

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Advocacy and Outreach

Issue:

Advocacy and Outreach on Compatible Land Use to State Legislatures and Regulatory Agencies

Background:

State legislative, regulatory and public support of realistic training and testing are critical to avoiding encroachment and incompatible land use challenges that can restrict testing and training. The Army Regional Environmental Offices (REOs) support the U.S. Army and Department of Defense (DoD) by working with state legislators and regulators to ensure environmental requirements are consistent with the military's ability to carry out its mission.

With an established network of offices and access to state legislators and regulators, members of the Army Regional Environmental Offices recognized the need and opportunity to inform and educate state legislators and regulators on what encroachment and incompatible land use was doing or could do to the missions of Army and DoD installations. However, with hundreds of legislators in each state and just a handful of REO representatives across the country, the REOs realized the difficulty of their outreach task.

What was done:

Rather than attempt to meet individually with state legislators in their legislative offices, Army Regional Environmental Office staff chose to meet with many state legislators at one time at their national organization conferences. The Army REO evaluated the largest and most influential state legislative and regulatory organizations with national memberships to determine which ones would be receptive to a compatible land use message from the military. Once the influential organizations were reduced to a manageable number, the REOs began to attend the organizations' national and legislative meetings. At those meetings, the REOs used proven risk communication and public involvement techniques to approach each group's leadership and staff. They introduced themselves to environment and natural resources committee members, explaining their purpose: learning about their issues of concern, and determining where the groups and the military have common ground.

As the REOs attended the groups' meetings more and more frequently, their members and staff began to recognize the military's interest and commitment in working together. Within a year of making first introductions, the REOs received invitations for DoD/Army representatives to give presentations at committee meetings on compatible land use issues. Just two years after beginning the state legislative and regulatory outreach effort, the following has occurred:

- The Council of State Governments included state legislation on compatible land use near military installations in its *2005 Suggested State Legislation* publication.
- The National Conference of State Legislatures and DoD began a joint education project for state legislators and installation commanders on how they can work more productively together and understand their common issues.
- The National Association of Counties formalized regular dialogue with DoD.
- The Environmental Council of the States and DoD established three new workgroups to discuss and work through issues of common concern.

- Passage of compatible land use-related legislation favorable to Army/DoD has gained momentum each year since 2002, with a minimum of nine states adopting such bills in 2004. (Actual figure depends on varying definitions of compatible land use legislation favorable to the military.)

How the mission benefited:

REO outreach to state legislative and regulatory audiences has helped influential state policymakers understand and identify incompatible land use trends, and work toward managing potential threats to military readiness and range sustainability.

Lessons learned:

A good outreach program takes:

- Strategic planning. The Army REOs prepared an outreach plan in 2002 that has been maintained and updated consistently since then. The plan helps the REOs stay on course.
- Consistency. Consistently attending legislative and regulatory meetings, often until the “bitter end,” signifies to organization membership a commitment to work with the group, and not just interest in pushing out a message.
- Repetition. Once the message is honed, it needs to be repeated over and over again. Many groups with many messages are competing for the policymaker’s ear.
- Flexibility. Working with policymaking groups is often chaotic. One needs the ability to refocus when the message isn’t getting through, or when events present new opportunities. Keeping the chain of command informed and having the authority to act when necessary is essential.
- Transparency. The willingness to be honest is communicated more by actions than by words. It encourages groups with different views to find common ground.

For more information:

For more information, please contact the Project Manager/Outreach Specialist at Horne Engineering Services, Inc., Army Northern Regional Environmental Office, Aberdeen Proving Ground, Maryland, Phone (410) 436-7098

Airspace Protection

Issue:

Airspace Protection by Partnering with Bureau of Land Management (BLM) – Consolidate/Trade Land Underneath Special Use Airspace (SUA)

Background:

The Air Force Flight Test Center (AFFTC) mission is test and evaluation of aircraft and weapons systems. The AFFTC has an Encroachment Prevention and Management Committee made up of a multi-disciplinary team that manages potential impacts to the mission. The team focuses on everywhere the AFFTC operates. This best practice only covers actions to protect the R-2515 airspace from encroachment.

The R-2515 has a floor of ground surface and a ceiling of infinity. Some of the land underneath the R-2515 is private property and could result in mission impacts if it were developed with incompatible uses. There are many ways to prevent such incompatible development such as purchase the land, buy easement/development rights, or partner with other agencies to protect the lands with the mission in focus.

What was done:

The AFFTC entered into an agreement with the BLM Field Office that manages the BLM lands in the area. The agreement defined the operating parameters around which BLM and the AFFTC would work. The BLM consolidated as much land as possible underneath the R-2515 through trading lands of different values in areas not underneath the R-2515.

How the mission benefited:

Potential for incompatible development was drastically reduced (>50,000 acres) and BLM has an agreement with the AFFTC to ensure that all users of these lands will be compatible with the military mission.

Lessons learned:

- Partner with other Federal Agencies to get the best possible protection for the DOD investment.
- You do not have to own the lands to protect your mission to some degree. The degree of protection can be modified to fit the situation (funding available, partners, criticality to the mission etc).

For more information:

For more information, please contact the Chair of the Encroachment Prevention and Management Committee, Air Force Flight Test Center, Edwards Air Force Base, California, Phone (661) 277-2412.

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American Indian Consultation

Issue:

American Indian Consultation

Background:

The mission of the Utah Test and Training Range (UTTR) is to train warriors and test weapons.

Federal laws, executive orders, and presidential memorandums require federal agencies to consult with American Indians in regards to the presence of cultural resources and activities that may affect cultural resources on federal property. Cultural Resources Management ensures that there is compliance with these laws, orders, and memorandums. Examples include: The American Indian Religious Freedom Act (AIRFA), Section 106 of the National Historic Preservation Act, Executive Order 13175 on consulting and coordinating with Indian Tribal Governments, and the Presidential Memorandum on consultation with Indian Tribal Governments before taking actions (24 April 1994), and many more.

Eighteen American Indian Tribes currently hold a stakeholder interest in Hill Air Force Base (AFB) managed properties. Contact with American Indian Tribes began in 1993: The first government-to-government consultation at Hill AFB was held in June 2001. The consultation demonstrated the base's interest in American Indian involvement and concerns. Since then, Hill AFB established a process to determine which tribes have a cultural resources interest on base-managed properties. An ethnographic study of the area identified the 18 American Indian Tribes that are regularly consulted. Tribal consultation maintains good working relationships. Consistent and effective communication enhances all aspects of consultation, in turn, supporting the base's military mission.

What was done:

Established a good working relationship with American Indian Tribes facilitates compliance with the laws. Continual consultation with American Indian Tribes helps to develop a trust relationship that aids all aspects of the process and the base's military mission. UTTR's methods, learned through a process of trial and error, ultimately led to changes in consultation approach.

How the mission benefited:

Regular exchange of information during the consultation process gained improved understanding and raised awareness of concerns for all stakeholders thus reducing the potential for conflict between the base's military mission and American Indian interests.

Lessons learned:

Consistent, effective two-way communication between stakeholders of interest is fundamental to a successful cultural resources management program.

For more information:

For more information, please contact the National Environmental Policy Act/Cultural Resource Manager, Hill AFB, Utah, Phone (801) 775-3653.

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Arizona Commanders Summit (ACS)

Issue:

Arizona Commanders Summit (ACS)

Background:

The Military Lands Withdrawal Act of 1999 (Public Law 106-65) transferred the land management function for the Barry M. Goldwater Range (BMGR) from the Department of the Interior to the Department of Defense. Management responsibility was ultimately delegated to the 56th Fighter Wing at Luke Air Force Base for the eastern portion and to the Marine Corps Air Station (MCAS) Yuma for the western portion of the range.

The Arizona Commanders Summit was originally established to address issues such as joint utilization and stewardship requirements of the BMGR. The initial membership included the primary users of the BMGR: Luke AFB, MCAS Yuma, Davis-Monthan AFB, and the Arizona Air National Guard. The Commanders quickly realized the benefit of such a forum and expanded the scope of the ACS.

What was done:

The ACS provided a forum for Commanders to address issues affecting the BMGR. Commanders recognized that there were many other issues of common concern such as: encroachment, environmental compliance, and community relations issues. As a result, the ACS agreed to expand membership to include all military installations in the State of Arizona. An ACS charter established the mission to: *facilitate smooth military operations in Arizona and create a cooperative effort among the commanders of Arizona military organizations to ensure the highest possible level of training operations.* The focus of the Summit includes air and ground encroachment, environmental concerns, Native American issues, utilization of special-use-airspace, range enhancement programs, community relations, and any other issues Arizona military units may have in common. The Commander of the 56th Fighter Wing serves as Chair and the Commander of MCAS Yuma serves as Vice-Chair. Meetings are held semi-annually in March and September. Meeting locations are rotated throughout the military facilities in Arizona. The hosting unit presents a unit mission briefing and invites their town mayor which assists in community outreach.

How the mission benefited:

Through a cooperative exchange of information, the Summit serves as an avenue for members to learn of other units' approach to the issues which will assist in a standardized resolution to shared problems. The forum helps to develop a strong sense of unity and cooperation among military organizations across all military services in Arizona. Specific endeavors include:

- Develop installation fact sheets.
- Facilitate cross-sharing of information which assists military commanders to “speak with one voice” when communicating with State and local jurisdiction.
- Determine best ways to address issues that impact military missions such as location of housing development under convergence of military training routes and location of a cargo airport impacting the ingress/egress location to the BMGR.
- Receive updates on state legislative activities.

- Receive updates and opportunity to provide input on the Joint Land Use Studies (JLUS) conducted in the state of Arizona.
- Attendance at a Summit meeting by the Governor of Arizona and stated commitment of her administrations support of the military mission.
- Communication on the impact of illegal trespass of undocumented aliens on Department of Defense land. This assisted to standardize data collection and impact assessment criteria. As such, the Commanders of Luke AFB and MCAS Yuma briefed the Secretary of Homeland Defense, Mr. Michael Chertoff in May 05 in an effective, unified approach.
- Worked with the Arizona Department of Environmental Quality and signed a Pollution Prevention Partnership agreement designed to promote mission readiness through effective prevention programs such as de-fueling and recycling.
- Expanded membership to include representation from the Regional Environmental Coordinators (REC) which increased installation commanders' involvement in mission sustaining environmental planning processes.

The ACS is enthusiastically supported by all Arizona military installations and given its success is under review to be similarly situated in other states and regions.

Lessons learned:

The opportunity for Installation Commanders to meet face to face on a regular basis has been instrumental in developing a better understanding of each others military mission and the problems they encounter. The development of a "One Voice" approach to address operational issues such as encroachment, community relations, airspace, and environmental concerns has proven effective. This interaction between Installation Commanders and their staffs has been instrumental in developing joint use of valuable air and ground training assets and airspace.

For more information:

For more information please contact the 56th Fighter Wing Range Management Office, Luke AFB, Arizona, Phone (623) 856-5857.

Arizona Military Airspace Working Group (AMAWG)

Issue:

Established the Arizona Military Airspace Working Group (AMAWG).

Background:

The AMAWG is an informal organization whose charter is to ensure efficient and safe utilization of Military Special Use Airspace permitting users to accomplish their assigned mission. The AMAWG is also committed to developing operational procedures that have a minimal impact on civilians and other aviation entities affected by military flight training. AMAWG airspace managers core members are: 56th Fighter Wing (FW), Luke Air Force Base (AFB); 355th Wing (WG), Davis-Monthan AFB; 162nd FW, Tucson Air National Guard (ANG); Western Army Aviation Training Site, Silver Bell Army Airfield (AAF); Advanced Airlift Tactical Training Center, St Joseph Missouri ANG; Marine Corps Air Station Yuma; and Federal Aviation Administration (FAA) representatives.

What Was Done:

AMAWG, originally named Southern Arizona Military Airspace Working Group, was formed in 1994 by airspace managers from Luke and Davis-Monthan Air Force Base to address issues/concerns of Special Use Airspace (SUA) common to both installations. When asked, the AMAWG provides support to the Arizona Commanders Summit. Items discussed include common range issues, Native American issues, forest fire impacts to low-level routes and SUA, and Department of Homeland Security flight operations. The common piece of airspace for the military in Arizona is the airspace over the Barry M. Goldwater Range (BMGR). Luke AFB manages the land and airspace in the eastern portion and MCAS Yuma manages the western portion. Over 40 representatives attend the AMAWG quarterly meetings. In addition to the core membership, other representatives include: Fort Huachuca, Yuma Proving Ground (YPG), Arizona Airports Association, Arizona State Fire Department, Department of Homeland Security, Tucson Police Department, Bureau of Land Management, Tucson Airport Authority, Phoenix and Tucson Terminal Radar Approach Control (TRACON), Albuquerque Air Route Traffic Control Center and military liaisons to the Federal Aviation Administration, Western Pacific Region.

How The Mission Benefited:

Procedures were established to allow for communication and open lines between civilian and military airports. The Arizona State Department of Transportation, Aeronautics Division, requires airport sponsors to include a military representative on the Planning Advisory Committee (PAC) for all Airport Master Plans. In a reciprocal manner, an AMAWG representative participates as a member of the Arizona Airports Association, and vice versa.

Lessons Learned:

- Proactive communication with all airspace users resolves issues.
- Open communication helps airspace users understand each other's mission.
- Identify projects outside base boundaries that have potential impact on installations military mission.
- Establish points of contacts for issue resolution.
- Highlight the importance of Military Training Routes.

- Established process for the military installation to provide comments on airport master plans provided decision makers timely information.

For More Information:

For more information, please contact the 56th Wing Airspace Manager, Luke AFB, Arizona, Phone (623) 856-5855.

Army Public Involvement Toolbox

Issue:

Army Public Involvement Toolbox

Background:

The *U.S. Army Public Involvement Toolbox* is a website of practical tools, methods, examples and information related to public involvement (specifically environmental public involvement) in support of the mission of the U.S. Army. The primary purpose of the website is to provide Army, Army civilian staff, and Army contractors engaged in public involvement with functional, proven techniques and information. This website is publicly accessible and is intended to share the Army's commitment and approaches for public involvement with all its stakeholders.

What Was Done:

This website was developed collaboratively by a consortium of Army personnel from a number of Army organizations engaged in public involvement. As the committee assembled material and developed content for the website, it consulted with other federal agencies, such as the Environmental Protection Agency, state agencies, and several non-governmental organizations. This toolbox was developed to assist Army organizations in meeting the goals of the Army Strategy for the Environment. However, the tools and techniques included are applicable and adaptable to the full range of Army activities within the United States and worldwide where meaningful interaction with the public is necessary and encouraged.

How The Mission Benefited:

The Army Public Involvement Toolbox seeks to help meet the goals of the new Army Strategy for the Environment announced in October 2004. This site is intended to be one source of information. The website was developed by a consortium of Army organizations to provide tools, methods, examples, and information related to public involvement.

There are other excellent sources of public involvement information within the federal government or provided by other organizations. Links and references to other public involvement resources are provided throughout this website. The tools and techniques contained within this site are presented in a manner that allows Army personnel to easily find information on public involvement and develop plans and programs that meet their local needs and issues. Viewers quickly can access guides on specific public involvement activities, locate training opportunities, find the latest regulations and policy statements on public involvement and link to other resources created by other agencies. The strategy highlights the necessity of involving the public if the Army is to meet its goals and achieve sustainability in the future. The site places emphasis on the full range of activities needed to engage stakeholders with the "4Cs" of communication, coordination, consultation, and collaboration. The site can be accessed: www.asaie.army.mil/pitoolbox.

Lessons Learned:

- Numerous guides/tools to public involvement exist on publicly available web sites, though not always easy to find nor located on one comprehensive site.
- Public involvement plans are unique for each organization.
- It is important to involve stakeholders early and often in the process.

- It is important to collaborate actively with the public to forge mutually beneficial solutions regarding limited resources.
- The toolbox is a great start to raising awareness and providing resources to the field.
- Public perception affects Army operations.
- Methods of communication have changed over the years.

For More Information:

For more information, please contact the Senior Fellow of the Army Environmental Policy Institute, Phone (703) 604-2300.

Barry M. Goldwater Range (BMGR) Executive Council

Issue:

Barry M. Goldwater Range (BMGR) Executive Council (BEC)

Background:

The Military Lands Withdrawal Act of 1999 (Public Law 106-65) delegated management of the BMGR to the Department of Defense. The 56th Fighter Wing at Luke Air Force Base (AFB) manages the eastern side while the Marine Corps Air Station (MCAS), Yuma manages the western side of the range.

What was done:

The BEC was formed and the charter signed in 2001. The purpose of this council is to bring state and federal agencies together in collaborative management to enhance the natural and cultural resources on the BMGR.

The goals of the BEC include:

- Integrating the expertise of the member agencies into a system for collaborative management of natural and cultural resources.
- Blending the best stewardship practices and military activities to provide flexible, realistic, and effective training.
- Enhancing and promoting public awareness, appreciation, and responsible use of the BMGR, and build public trust on ability to effectively manage the land.
- Demonstrating the effective use of public funds and agency resources by collaborative management, streamlined procedures, integrated planning tools and elimination of operations duplication.

BEC membership is limited to federal and state agencies that have direct responsibility for potential impact upon lands or resources affected by military and other activities on the range such as Luke AFB, MCAS, Yuma, Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Border Patrol, National Park Service and the Arizona Game and Fish Department. All members of the BEC are considered equal and each agency retains control of its own funding, staff, and decision-making authority. The BEC meets at least bi-monthly. An agenda is prepared by the BEC Coordinator and distributed to member organizations for review and approval. The Coordinator prepares minutes of each meeting and distributes to member organizations.

Issues of common concern among BEC members include mitigating the impact of military activities on natural and cultural resources, management of endangered species and species of concern, support of Customs and Border Protection mission objectives, safety of ground personnel, and safe, accessible recreational use of appropriate areas of the BMGR. The BEC has enabled collaborative communications and efforts toward the sustainment of the endangered Sonoran pronghorn antelope, reduced to a population estimated at 21 animals in December 2003 due to prolonged regional drought conditions. A pooling of resources facilitated development of water catchments and forage plots which have helped the pronghorn population recover to an estimated 58 animals by December of 2005. In addition, a semi-captive breeding facility on the adjacent wildlife refuge is now accommodating 6 adult antelope and 6 fawns.

Increased undocumented alien incursions on the BMGR significantly impact the lands and elicit major concerns for their safety. The BEC has been a catalyst in addressing this issue across agencies through understanding and support of U.S. Customs and Border Protection actions, placement of water and distress stations in several locations, and cooperative strategic planning for stemming associated illegal activities in the region. Also, changes to military air and ground operations are coordinated through the BEC. This coordination aids in reaching a consensus prior to enactment and greatly enhances successful implementation.

How the mission benefited:

The mission benefited through outstanding interagency cooperation in cultural and natural resource protection, wildlife management, public recreation, law enforcement, and weapons delivery training. Agencies assisted in the development of BMGR resource management plans resulting in the elimination of duplication of effort and in the realization of significant cost savings. The BEC is an innovative entity that serves to assist the protection of the vital mission of the BMGR while facilitating the management and protection of cultural and natural resources. The BEC helped mitigate land and air encroachment on the BMGR through collaborative planning against illegal entrant activity, and also enhanced its communications with U.S. Customs and Border Protection for law enforcement activities during range operations. The General Accounting Office (GAO) visited the BMGR and described the BEC as a model for interagency cooperation.

Lessons Learned:

- While the BEC initially focused on range-only issues, the synergies experienced by the BEC participants resulted in practical identification and resolution of many other issues of common concern.
- Expanding a forum to include many stakeholders' issues assists in resolution. For the BEC, this expansion assisted in resolving a broader array of issues ranging from species management to wild lands fire fighting strategies.

For more information:

For more information please contact the BEC Coordinator at Luke AFB, Phone (623) 856-5857.

Case Information Files

Issue:

Case Information Files

Background:

The mission of Marine Corps Air Station (MCAS) Yuma is to provide aviation ranges, support facilities and services for tenants, including other Marine Corps commands and visiting military and interagency forces to enhance their mission capabilities and combat readiness.

MCAS Yuma is notified by all Arizona communities having jurisdiction over property within “territory in the vicinity of a military airport” as defined by Arizona Revised Statutes regarding all land use requests that are submitted. For the Chocolate Mountain Aerial Gunnery Range in California, the County of Imperial notifies MCAS for issues in the proximity to the range or of possible obstructions to navigable airspace (Military Training Routes (MTRs)). The MCAS Community Plans and Liaison (CP&L) office makes a determination if the case is one where the installation needs to submit a letter to the jurisdiction. Once a letter is submitted, a “Case Information” Form is completed. These forms are used to track and record what happens to the land use request from the initial MCAS Yuma letter through the Planning and Zoning hearings to final decision by the respective City Council or County Board of Supervisors. The case files contain any correspondence from the installation, all City/County Staff reports, newspaper articles and/or other pertinent correspondence. The case files are maintained for historical purposes in the CP&L Office. The case files have proved invaluable in researching uses of a particular piece of property or to detect changes in how an area is being developed.

The CP&L Office did not have any files pre-dating early 1980’s. The office was dealing with a growing community but had no historical perspective as to what position MCAS Yuma had taken on development in areas adjacent to the installation or the two aviation training ranges it manages. The lack of historical records forced MCAS to react to each case individually without any way to determine the synergy of development actions.

What was done:

Established and utilized a standardized form and system to historically track land use cases.

How the mission benefited:

This process demonstrates that the MCAS position has remained consistent over the years and statistically proves that the response is not always “No.” This process has assisted MCAS to anticipate the communities' planning processes and schedule meetings that require MCAS presence. This enhanced planning notification allows MCAS to better allocate personnel resources and to be better prepared for meetings. Personnel attending meetings are equipped so they can best articulate the MCAS position and respond to communities’ requests so that decisions are made with full information. Tracking of the communities’ planning processes also allows for multiple comment opportunities.

Lessons learned:

“Those who cannot remember the past are condemned to repeat it.”

George Santayana

For more information:

For more information, please contact the MCAS, Yuma Community Planning and Liaison Office, Phone (928) 269-2272.

Cherry Point Range Management

Issue:

Cherry Point Range Management

Background:

The mission of Marine Corps Air Station (MCAS) Cherry Point Range/Bombing Target (BT) - 11 and Bombing Target-9 is to provide target facilities for air-to-ground ordnance training and exercises; and to operate, maintain and improve these facilities as necessary to simulate the latest potential hostile threat environment.

Both BT-11 and BT-9 are targets that are encircled by water. Both ranges are defined by 33 Code of Federal Regulations 334.420.

BT-9 consists of two ship hulks grounded on Brant Shoals in Pamlico Sound, Pamlico County, North Carolina. The range is defined by a 6 statute-mile-diameter, circular surface water danger zone designated by the U.S. Army Corps of Engineers. Surface vessels are not permitted within this area which is posted with large signs on pilings placed around the perimeter. The restricted airspace is defined by a 10 nautical-mile-diameter from the surface to 17,999 feet. U.S. Coast Guard vessels and U.S. Marine Corps Search and Rescue helicopters deal with any encroachment by fishermen.

BT-11 encompasses 15,000 acres, including all of Piney Island. It is bordered on the north, east and, west by water, and by marsh lands on the south. Activities in the area near BT-11 are predominantly recreational uses such as hunting and fishing as well as, timber production, agriculture and commercial fishing. The range is accessible only by boat or helicopter. It consists of both water and land-based targets including 500 and 800 foot bull's-eyes, barge and PT boat targets, a simulated truck convoy target, a simulated airstrip target, strafing banners, and a surface-to-air (SAM) missile target. Only inert ordnance is authorized on BT-11. BT-11 is also surveyed by surveillance cameras mounted on towers and monitored by range operation and control personnel. Standard operating procedures include a visual check by pilots prior to mission execution to ensure the range is clear. All intrusions noted during daily sweeps or range visual checks by pilots and surveillance cameras are reported. Operations are halted until the range is clear. The restricted airspace is defined by a 10 nautical-mile-diameter area from the surface to 17,999 feet. The island is a relatively remote area where human disturbances, other than those associated with military activities, are atypical.

What was done:

- The Range Department and Environmental Affairs Department closely partnered to ensure that all range initiatives were in compliance with the National Environmental Policy Act of 1969 (NEPA).
- The MCAS Cherry Point Community Plans and Liaison Office is proactive in keeping the lines of communication open with the civilian community.

How the mission benefited:

- MCAS enjoys positive interaction and communication with local officials regarding range activities and overall land use planning. The Public Affairs Office actively notifies the public if unusual activities or unique training may occur.
- MCAS enjoys outstanding relations with the local community. Local fishermen report any unusual activity around the bombing targets after normal hours of operation.
- MCAS closely analyzes safety implications of air-to-ground weapons use with the Department of the Navy Safe Range program.

Lessons learned:

- Early engagement by Public Affairs Office (PAO) with the local populace on any operation out of the ordinary is mandatory.
- Because BT-11 consists of designated "Wet Lands" and BT-9 is a water target, early liaison with the Base Environmental Affairs Division is critical for any proposed range improvements or initiatives.
- Look for new State or Federal grants that will assist in the purchase of air easements or fee simple (out right land purchases) for range buffer zones.

For more information:

For more information, please contact the MCAS Cherry Point Aerial Surface Targets Department, Phone (252) 466-2956.

Communications Tower Plan

Issue:

Communications Tower Plan

Background:

The Air Armament Center (AAC) develops, tests, acquires, and sustains integrated air armament and provides expeditionary combat support needed to defend the United States (U.S.) and its interests for today and tomorrow.

Eglin Air Force Base (AFB) established the Eglin AFB Encroachment Committee and the Eglin AFB Encroachment Office. Committee membership includes Legal, Public Affairs, Civil Engineering, Communications, Finance, Safety, Environmental, Operations, Range Management, and Plans and Programs Office representation from the Air Armament Center, 46th Test Wing, and the 96th Air Base Wing, and flight operations. To ensure a regional approach, both Naval Air Station (NAS) Whiting Field and Hurlburt Field provide representatives. The 46th Test Wing Technical Advisor chairs the Eglin Encroachment Committee with all requests/issues being vetted through the Chairs of the Installation Development Committee, the Range Development Executive Steering Committee and the Environmental Committee as approved by the Air Armament Center Vice Commander.

The Eglin AFB Encroachment Office manages the Encroachment Program and provides staff support to the Encroachment Committee.

In August 1995 a Presidential Executive Memorandum directed the Services to facilitate access to federal property for the purpose of siting commercial mobile service antennas and equipment. Public Law (PL) 104-104, 8 February 1996, implemented the Executive Memorandum. Headquarters (HQ) United States Air Force (USAF)/Staff Coordination Exercise (SCX) message 141600Z February 1997 provided clear direction on provisions of General Services Administration (GSA) implementation guidance to all Major Commands (MAJCOM). Bases were directed to identify interested parties to gauge demand and mission impact of support of the requirements. If all potential requestors could not be supported then competitive selections could be used to allocate the available resources. Users were required to pay Fair-Market-Value (FMV) for areas used, any environmental costs, and for an Electromagnetic Interference-Radiation Hazard Analysis (EMIRHA) conducted by the DOD's Joint Spectrum Center. Of prime concern was that approved antennas would not interfere with present or anticipated missions of the base. Due to the land area size of Eglin AFB and the fact that the range entails portions of three counties, the installation received multiple requests from cellular service providers for installation of antennas and towers on the cantonment area and throughout the range. Each of these requests required manpower intensive staffing. The volume of requests rapidly approached a point where competitive bid procedures be required.

What was done:

Requests for commercial towers were historically looked at on a case-by-case basis. In order to meet the requirements of the executive order and to limit workload associated with communications tower requests, the Encroachment Committee tasked a Sub-Working Group consisting of mission, safety, environmental, communications, and real estate representatives to compile a tower plan for long-term satisfaction of cellular industry requirements. This plan was to take into account impact to current and future base mission requirements.

- The working group identified mission limitations for cellular towers on Eglin as having a maximum Above Ground Level (AGL) height of 100 feet. All tower sites would be located adjacent to major public roadways with no sites located on the interior of the range.
- A Communications Tower Workshop, announced through Commerce Business Daily, was conducted in April 2000 to identify cellular requirements and to outline base limitations to potential customers
- A total of six cellular companies and three tower companies participated in the workshop.
- 31 tower locations throughout the Eglin range were identified.
- The Working Group met and reviewed all requested locations and determined that all cellular requirements could be supported without “Competitive Bid” action. The group recommended 11 potential locations using a 5 acre tower farm concept consisting of 20 100’x100’ sites. This concept would allow a total 160 possible towers. This concept accommodated all known industry requirements based on industry five-year plans and allowed for future growth in the event the industry requirements changed dramatically.
- Industry representatives were provided information on 11 potential sites in November 2000 and asked to review the information for technical viability.
- Industry review found the plan to be technically viable. An Eglin Encroachment Committee working group accomplished an extensive environmental review to identify final site locations. Three potential sites were eliminated due to environmental concerns.
- Eight locations for tower farms were finally selected.

How the mission benefited:

- Decreased staffing time through pre-approval of communication tower locations benefited both the installation and industry.
- Facilitated a less manpower-intensive review.
- Provided clear guidelines on specifications.
- Identified acceptable tower locations.

Lessons learned:

Early involvement of industry representatives allows clear communications on both installation and industry requirements and concerns. Working together, these issues can be resolved and processes defined.

For more information:

For more information, please contact the Eglin AFB Encroachment Office, Phone (850) 882-5362.

Community Leaders Forum

Issue:

Community Leaders Forum

Background:

Historical note: The Naval Air Station (NAS) Miramar served as the Navy's fighter Master Jet Base for nearly half a century. In 1999, Miramar realigned to a Marine Corps Air Station (MCAS). This case study reflects Navy policy prior to the arrival of the Marines.

NAS (now MCAS) Miramar covers 24,000 acres in urbanized San Diego. It is bordered by two separate cities and county property. Impacts from air operations, however, extend well beyond the borders.

Traditional coordination with communities normally involved City and county leadership, but the Navy recognized a need to open a dialogue with local neighborhood groups if the Navy was to be a good neighbor.

What was done:

The Navy established a Community Leaders Forum to open lines of communication with Miramar's neighbors. The Committee was chaired by the Commanding Officer and staffed by the Community Planning Liaison Officer (CPLO). Also in attendance from the Navy were the Installation Judge Advocate General (JAG) and Public Affairs Officer (PAO). The community representatives included: three nearby cities, the county; Chamber of Commerce, representatives from neighborhood civic organizations, and other stakeholders. These meetings were conducted quarterly, and addressed operational tempo, noise complaints, land use concerns and other relevant topics. Meetings normally kicked off with a mission update from the Commanding Officer and ended with a round table discussion of issues of interest.

How the mission benefited:

- The Community Leaders Forum kept the community apprised on changes in flight operations and provided a ready forum to discuss other issues directly with the Commanding Officer. This resulted in community support for land use issues that could affect mission sustainability.
- The Forum was so successful that after a Base Realignment And Closure (BRAC) realignment of Miramar to a Marine Corps Air Station, the Marines continued the Forum. Other bases, such as Naval Air Station (NAS) Oceana, in Virginia Beach, have also established Community Leaders Forums.

Lessons learned:

- Keeping the mission in front of the Public ensures a public understanding of the mission, promotes good will, and reduces noise complaints.
- Allies gained through the Community Leaders Forum often provided support to the Navy in other areas.

For more information:

For more information, please contact the Navy East Coast Air Installation Compatible Use Zone (AICUZ)/ Range Air Installation Compatible Use Zone (RAICUZ) Center of Excellence, Phone (757) 322-4935.

Deed Restrictions

Issue:

Deed Restrictions through Land Use Planning with the County: Use of an Avigation Disclosure Statement

Background:

The mission of the 98th Range Wing is to formulate concepts and advocate requirements to support: Department of Defense (DoD) advanced air combat composite force training, tactics development, and electronic combat; and DoD and Department of Energy (DOE) testing, research, and development.

Nellis Air Force Base (AFB) has established a Readiness Sustainability Team (RST). The team membership includes Legal, Public Affairs, Real Property, Community Planning, Environmental, Airspace Management, 98th Range Wing Plans and Programs Office, and representatives from flight operations. The 99th Air Base Wing Vice Commander chairs the RST.

What was done:

Consulted with Marine Corps Air Station, Yuma and utilized avigation language from City of Yuma and Yuma County Arizona.

How the mission benefited:

Waiting on results.

Lessons learned:

Avigation easements can improve land use planning with military activities. It assists to preclude negative impacts from future housing development under military flight corridors.

For more information:

For more information, please contact the 98th Range Land Management Section, Phone (702) 653-4565.

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Discouraging Recreational Trespass

Issue:

Discouraging Recreational Trespass

Background:

Historical note: Naval Air Station (NAS) Miramar served as the Navy's fighter Master Jet Base for nearly half a century. In 1999, Miramar realigned to a Marine Corps Air Station (MCAS). This case study reflects Navy policy prior to the arrival of the Marines.

Naval Air Station (now MCAS) Miramar covers 24,000 acres and provides one of the few remaining open spaces in urban San Diego. While outwardly much of the land appeared not to be utilized, it was encumbered by hazard areas for rifle ranges, unexploded ordnance, environmentally sensitive lands, and classified research projects.

Local maps produced by mapping companies (i.e., Thomas Guide and AAA) showed firebreaks throughout Eastern Miramar as trails and dirt roads. These maps were, in turn, used to produce off-road biking guides. Trespass by hikers and bikers was prevalent. This posed a risk to citizens, environmentally sensitive areas, and the mission.

What was done:

The Community Planning Liaison Office (CPLO) and the judge advocate contacted the mapping companies and the producers of the biking guides. They were not aware of the Navy's concerns and the possibility that their encouraging the trespass could leave them liable. The companies voluntarily agreed to remove the trails and dirt roads from their maps and add a note to discourage trespass.

How the mission benefited:

Over the next year, the trespass declined. This helped protect the local citizens from hazards, reduced interference to various missions, and preserved environmentally sensitive areas.

Lessons learned:

- Often the public (in this case mapping companies and off-road biking clubs) is willing to work with the military to protect the mission, especially when they understand the concerns.
- Trespass is an area of encroachment that can also have major impacts.

For more information:

For more information, please contact the Navy East Coast Air Installation Compatible Use Zone (AICUZ)/ Range Air Installation Compatible Use Zone (RAICUZ) Center of Excellence, Phone (757) 322-4935.

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Educating Real Estate Professionals

Issue:

Educating Real Estate Professionals on Aircraft Operation Impacts

Background:

Naval Air Station (NAS) Oceana serves as the Navy's fighter Master Jet Base. NAS Oceana is the most encroached upon air station in the Navy, with over 140,000 Virginia Beach residents living in incompatible noise zones and Accident Potential Zones (APZs) associated with aircraft operations. When people move into the noise zones near the base, they were often unaware of the impact they would experience from fighter operations that could, on occasion, run 24 hours a day. Residents expecting a certain quality of life with their new homes would complain and seek political solutions to the aircraft noise.

What was done:

The Community Planning Liaison Office (CPLO) worked directly with the Tidewater Association of Realtors (TAR), now known as the Hampton Roads Realtors Association, on a series of strategies to inform their realtors on the need for disclosure.

Years earlier, at the request of the Navy, TAR placed a disclosure statement requirement for air station impacts in their closing documents. The noise and accident potential zones for Oceana were also included in the realtors' map books. However, when the CPLO examined the homes for sale in the Multiple Listing Service (MLS), they discovered that the noise zone and APZ disclosure was often wrong or missing. The TAR and the Navy worked together on a series of initiatives to correct this problem:

- Half-day seminars on Air Installations Compatible Use Zones (AICUZ) program were conducted for realtors on the air station. These seminars were followed by a tour and mission brief so the realtors would have a better understanding of Oceana's air mission.
- Quarterly, the CPLO would prepare articles on a different aspect of the AICUZ program. These articles were published in the TAR newsletter.
- TAR changed their disclosure requirements so that potential buyers were informed early in the process as well as at closing.
- TAR advised their members that "AICUZ Inspectors" would be assessing how they disclosed airfield impacts. The CPLO, assisted by other Navy personnel, then conducted inspections by anonymously attending open houses to see how the realtors discussed the subject of disclosure with potential buyers. Feedback from these "inspections" helped TAR fine-tune their disclosure requirements.
- Real Estate brokers hold weekly information and training meetings for their realtors and look for guest speakers to discuss real estate-related issues. Every week, the CPLO attended these meetings at Real Estate offices to give a one-hour AICUZ PowerPoint brief. Because of the turnover in realtors, the CPLO was invited back annually.

Because only two-thirds of all real estate professionals are realtors (members of the National Association of Realtors), the CPLO approached the City of Virginia Beach to enact an ordinance requiring full disclosure in real estate transactions. This resulted in required disclosure for homebuyers, renters and lessees. The CPLO extended the weekly Brokers meeting briefs to include independent brokers.

To provide further information on the AICUZ program, NAS Oceana put an AICUZ page on the website. It can be accessed at: http://www.nasoceana.navy.mil/AICUZ_files/frame.htm.

To assist the real estate professionals in determining the location of properties in the noise zones and APZs, the Navy produced a new AICUZ pamphlet to be distributed to real estate professionals, urban planners, brokers, appraisers, and the general public. This pamphlet showed the noise zones and APZs for all three Naval air facilities in Hampton Roads on a detailed foldout map. The map also included Norfolk International Airport, so the real estate professionals would need only one map for airfields disclosure. Over 20,000 pamphlets were distributed. Additionally, the Navy designed a tri-fold pamphlet for local production at real estate offices.

Recently, the City of Virginia Beach placed a searchable map on their website which allows real estate professionals and perspective buyers to identify properties within Oceana's AICUZ zones. The site may be accessed at: <http://www.vbgov.com/dept/planning/links/0,1999,19337,00.html>

How the mission benefited:

Disclosure in real estate became the norm. Buyers, sellers, and lessees who understand the AICUZ concerns are less likely to complain. Citizens living near the air station better understand the military mission and impacts.

Lessons Learned:

- Issues such as disclosure are not resolved over night. These strategies were implemented over a span of 15 years, under seven Commanding Officers and four CPLOs.
- Better disclosure by the real estate professionals was mainly the result of repetitive education and using a multiple strategy approach.
- Disclosure in local real estate transactions is a program that must be monitored to ensure it is properly implemented.

For more information:

For more information, please contact the Navy East Coast Air Installation Compatible Use Zone (AICUZ)/ Range Air Installation Compatible Use Zone (RAICUZ) Center of Excellence, Phone (757) 322-4935.

11th Air Force Airspace & Range Management

Issue:

Establishment of 11th Air Force (AF) Resource Protection Council (RPC) and the Alaska Civil/Military Aviation Council (ACMAC)

Background:

One of the missions of the 11th AF is to provide the Special Use Airspace necessary to provide air-to-air, air-to-ground, and electronic warfare training for U.S. Forces and Coalition Partners.

The 1997 Military Operations Area (MOA) Environmental Impact Statement (EIS) Record of Decision (ROD) mandated that the 11th AF institutionalize two groups to facilitate cooperative engagement with mutually competing interests involved with the management of 60,780 square miles of airspace. Alaska has over 10,000 private pilots and contains 60 percent of our country's National Parks, 50 percent of National Wildlife Refuges and 50 percent of Designated Wilderness. The two groups created to respond to the ROD are the Resource Protection Council and the Alaska Civil/Military Aviation Council. Both groups fit within the construct of Air Force Instruction (AFI) 13-201's description of a Regional Airspace & Range Council. The 11th AF construct sets the standard maintaining readiness and preserving aviation and resource interests to the maximum extent possible.

The 11th AF Resource Protection Council (RPC) addresses land resource issues. It is comprised of the National Park Service, Bureau of Land Management, Fish & Wildlife Service, State of Alaska Departments of Fish & Game and Environmental Conservation, and staff from 11th Air Force. This group meets periodically to address resource management issues and provides the perfect venue to defuse very contentious issues by enabling staff to work with interested parties on a first-name basis.

The Alaska Civil/Military Aviation Council is comprised of commercial and general aviation interests. The Council includes representatives from the following groups: the Alaska Commercial Air Carriers Association, Aircraft Owner's and Pilot's Association (AOPA), the Alaska Aviation Safety Council, the Alaska Miners' Association, the Alaska Airmen's Association, and others. Meetings are held semi-annually to discuss issues related to competition for airspace.

What was done:

The MOA EIS had been met with significant negative feedback involving resource management issues. As a result, during the National Environmental Policy Act (NEPA) process, 11th AF, with the Secretary of the Air Force (SECAF) signing the ROD, implemented an alternative to the Preferred Alternative which took into account several Level II and Level III impacts. The RPC has proven itself in the past eight years as a group that can work together to resolve contentious issues. The AF has funded \$500,000 in studies to investigate the effects of Major Flying Exercises, such as Cope Thunder, on various entities. The impacts are not as significant as originally believed. The science is revealing good news for everyone. Recently the U.S. Fish & Wildlife Service proposed that the Section 7 Consultation on the Peregrine Falcon be removed. The RPC will soon discuss recommendations to the 11th Air Force Combat Command for mitigation removal for this species.

How the mission benefited:

Information gained from other agencies is communicated by staff to operations via the 11th Air Force Airspace & Range Committee. Aircrews are given information about why certain safety or environmental restrictions are in place. When everyone understands what leadership has decided and why, the work arounds are more efficiently and safely affected to accomplish the mission.

Lessons Learned:

- Although other competing interests want the military to succeed, they also have an agenda which they attempt to get the military to understand. When factoring all the relevant information, leadership has the correct information necessary to make readiness impact decisions. Forward thinking, proactive engagement and having staff that understand how to communicate is the key to success.
- It is important to communicate military readiness mission needs effectively.

For more information:

For more information, please contact Elmendorf Air Force Base 611th Air Operations Group, Phone (317) 552-4430 or Eielson Air Force Base 353rd Combat Training Squadron, Range Division, Phone (317) 377-9797.

Encroachment Initiatives

Issue:

Navy Region Southwest Encroachment Initiatives with State and Local Government

Background:

The Navy Region Southwest (NRSW) is the Naval shore installation management headquarters for the Southwest region that includes California, Arizona, and Nevada. NRSW provides coordination of base operation support functions such as housing, environmental, security, air services, and logistical concerns for operating forces throughout the region. The Commander of Navy Region Southwest is also designated as the Department of Defense (DoD) Regional Environmental Coordinator (REC) for the states in Environmental Protection Agency (EPA) Region IX, that includes: California, Arizona, Nevada, Hawaii, and the Pacific Islands.

As referenced in the Deputy Under Secretary of Defense Installations and Environment's 23 August 2004 memo to the Service Secretaries, encroachment is a major concern affecting military readiness. DoD recognizes that the causes of and solutions for encroachment are to be found at the state and local level. NRSW continues to find innovative and effective efforts to address encroachment issues at the state, regional, and local level.

What was done:

Established a Regional Environmental Coordinator's office in 1995 to coordinate environmental issues within the region and within DoD. After proper coordination, the REC represents Navy and DoD interests, "speaking as one voice", to state and local elected officials and regulators. The REC office includes a full-time Government Affairs Coordinator within the REC Office to monitor and engage at the state capitol. This ongoing communication and interaction assisted efforts to bring military readiness considerations into California's state/local planning legislative process. Recently enacted California law provides:

- Local governments must consider the impacts of new growth on military readiness.
- California Environmental Quality Act (CEQA) notice of projects to the military in specified instances.
- Preparation of a State Planning Handbook to assist local jurisdictions in evaluating impacts of civilian development on military assets to implement the law.
- Grants localities access to electronic mapping of military areas of concern.
- The military receives notice of all projects and general plan proposals within 1000 feet of installations, and areas beneath special use airspace and military training routes.
- Mediation through the Governor's office to resolve conflicts.
- Establishment an Office of Military and Aerospace Support to serve as the primary state liaison for dispute resolution with state agencies, and to review state agency actions that may affect the military.

Encroachment comes in many forms; it is not just land use issues. DoD Region IX strives to address all forms of encroachment. For example, draft 1995 California local air regulations were making the use of portable engines for tactical support nearly impossible. DoD REC IX worked with all the military services and a legislative exemption was obtained that prevented local regulation and assured statewide regulation consistent with the military mission. Building on this success, NRSW's DoD REC program has been active in reviewing the spectrum of state laws

and regulations and successfully resolved a number of conflicts with air, hazardous waste, coastal management, and water quality issues with potentially serious operational impacts, thus enhancing military readiness and savings millions of dollars.

Installation Level and Range Commanders lead local efforts to combat encroachment. Specific proactive initiatives in process or planned include:

- R-2508 Range Complex initiative that includes four Regional Compatibility Plans (RCP) for the following: Naval Air Warfare Center (NAWC) China Lake, Fort Irwin, Edwards AFB, and 20,000 square miles of Special Use Airspace. These RCPs will provide a vehicle for joint, cooperative military and community planning that will help identify potential conflicts while safeguarding the military mission.
- An Encroachment Action Plan is currently underway at Naval Air Station (NAS) Fallon and Chief of Naval Installations (CNI) recently nominated Naval Air Facility (NAF) El Centro and Naval Base Ventura County for the 2005 Joint Land Use Study (JLUS) Program.

Established NRSW Community Plans and Liaison Office (CPLO) in 2004 to promote consistency, coordination, and provide technical support in addressing land use compatibility issues region-wide.

How the mission benefited:

These procedures have provided military exchange of information to assist decision makers to make fully informed choices.

Lessons learned:

Procedures need to be developed to ensure state and local governments are getting the information they need from the military. This timely exchange of information ensures that military issues are addressed.

For more information:

For more information, contact the DoD REC Manager for Region IX, Phone (619)524-6264, or California Governmental Affairs Coordinator, Phone (916) 557-5334.

Environmental Noise Program

Issue:

Environmental Noise Program at U.S. Army Aberdeen Test Center, Aberdeen Proving Ground, Maryland

Background:

The U.S. Army Aberdeen Test Center (ATC), Aberdeen Proving Ground (APG) is an active Test and Evaluation (T&E) range with an increased training mission since 2000. The ATC manages and operates the Environmental Noise Program for the APG. The APG Environmental Noise Program works daily to ensure that noise-related missions are performed with the least impact to the surrounding communities. Sophisticated noise modeling programs that incorporate local weather data, a strong influence on noise propagation, are utilized to determine noise impact to the surrounding communities. The ATC has 18 perimeter noise monitors in 4 surrounding counties. Testing may be cancelled or rescheduled to ensure the minimal noise impact to the community. The public is advised when there will be testing and/or training that may cause significant noise or vibration outside of the normal daily operations. Residents and officials of local communities are able to call and discuss their concerns with noise and/or vibration with members of the APG Public Affairs Office as well as the Environmental Noise Office. Visits and noise monitoring are performed at residents' homes to address specific concerns.

Noise will continue to be an increasing encroachment issue for APG and for the surrounding communities due to the increase in home construction, nondisclosure by realtors, and a changing population.

What was done:

Aberdeen Test Center has become increasingly more sophisticated with their noise modeling programs. The Test Center has progressed in the capabilities of the Noise Assessment Prediction System (NAPS) from a stand-alone system with meteorology data downloaded from a weather balloon, to the 4DWX system which is a four dimensional system that is updated every three hours with meteorology data, to the NAPS Climatology Planning Tool which plans for noisy tests that will occur beyond tomorrow. Since weather is the strongest influence on noise propagation, these increasingly sophisticated noise-modeling programs have enhanced ATC's ability to predict noise impact to the community.

How the mission benefited:

Increasingly sophisticated noise modeling programs that include beyond tomorrow missions have provided ATC with greater ability to schedule testing programs so that the community impact is minimal.

Lessons Learned:

Public outreach is critical with the changing population outside the installation boundary as well as the increased home construction. APG issues media advisories for training exercises outside normal duty hours, as well as advance notification to surrounding counties' Emergency Operations Centers so they can respond to their constituents concerns. Visits and noise monitoring are performed at residents' homes to address specific concerns.

For more information:

For more information, please contact the U.S. Army Aberdeen Proving Ground Environmental Noise Office, Phone (410) 278-8605.

Freedom City Convoy Military Integrated Laser Enhanced System (MILES) Ambush Facility

Issue:

Freedom City Convoy MILES Ambush (CMA) Facility-The Use of Diverted Solid Waste on Ranges

Background:

In March 2004, the Range Control Operations Supervisor made a determination that the existing Fort Bragg Convoy Live Fire (CLF) ranges could not support the current usage demand created by the increased emphasis on Convoy Training by active duty and mobilizing forces. Upon studying unit utilization practices, it became apparent that most units scheduled the CLF range to conduct training other than live fire, i.e. mounting/dismounting and Improvised Explosive Devices (IED) identification. In order to provide a more appropriate training facility the Freedom City complex was developed.

What was done:

The Freedom City range complex was developed, designed and constructed as an unfunded project which was completed in-house by Range Control personnel in less than 90 days. Installation time, fuel, and labor were saved. The estimated cost of this project, if it had been constructed from new materials, would have been close to \$250,000 and taken 5 years to complete.

The facility provides a realistic non-live fire training environment using MILES equipment and pyrotechnics. The Freedom City Convoy MILES Ambush complex was built adjacent to the Owen Landing Zone in the Northern Training Area. The complex consists of a 7-mile vehicle-march route culminating at a mock Iraqi village. The village consisting of nearly 9000 square feet of buildings includes a mosque, logistics area, railhead, cantonment area, improved roads, a bridge, a simulated 4-lane highway, and numerous generic indigenous buildings.

The Range Control Officer used internal assets, materials that were recovered from the installation landfill, and excess paint to construct a realistic Convoy Live Fire training facility. Various types of containers (Connexes and military vans) were used to simulate the structures. These structures were placed in proximity to one another, and in some cases were stacked to provide upper stories, to simulate a village. Doors and windows were cut into the containers using laser cutting tools. Excess paint was collected from the Hazardous Waste Reclamation Office and blended until acceptable colors were made. Range Control personnel made signs and life-sized targets by enlarging photos from DoD websites and sandwiching them between sheets of Plexiglas. The Directorate of Public Works provided the gravel for the roads by crushing waste concrete from demolition projects on the installation. The only major material purchase was concrete retaining walls used in the construction of the small bridge. A local vendor made these retaining walls from excess concrete. They cost the installation about 1/3 the price of typical barriers.

How the mission benefited:

At Fort Bragg, or any other installation at which space is such a limiting factor, any initiative that minimizes solid waste has myriad benefits. For example, the potential to prevent loss of training acreage due to creation/expansion of landfills, transfer stations, and holding areas. To date, nearly 18,000 soldiers have trained at the Freedom City facility. Had the facility been constructed in the traditional manner and along the original timeline, no soldiers would have been trained at the date of this writing. The community also benefited from Freedom City. By purchasing excess concrete retaining blocks at a reduced price, Fort Bragg not only saved money but provided incentive for local vendors to reuse and recycle excess material rather than landfill it.

Lessons Learned:

- Integrating the sustainable principles into core processes can lead to benefits to the mission, the environment and the community. Fort Bragg saved over \$200,000, considerable landfill space, and was able to complete the project years earlier.
- Make sure to tightly weld all CONEX containers together and brace them. They tend to move.
- Ensure ample metal extraction capabilities from the concrete crushing contractor. Metal in the finished product can lead to flat tires.
- Ensure edges of doors and windows cut into the containers are covered to prevent injuries.

For more information:

For more information please contact the Chief of Range Control at Fort Bragg, Phone (910) 432-5318.

Greenway Partnership Initiative

Issue:

Greenway Partnership Initiative

Background:

The Air Armament Center (AAC) develops, tests, acquires, and sustains integrated air armament and provides expeditionary combat support needed to defend the United States (U.S.) and its interests today and tomorrow.

Eglin Air Force Base (AFB) has established the Eglin AFB Encroachment Committee and the Eglin AFB Encroachment Office. Committee membership includes Legal, Public Affairs, Civil Engineering, Communications, Finance, Safety, Environmental, Operations, Range Management, AAC Plans and Programs Office, the 46th Test Wing (TW), and the 96th Air Base Wing, and representatives from flight operations. In addition to ensure a regional approach both Naval Air Station (NAS) Whiting Field and Hurlburt Field provide representatives. The 46th Test Wing Technical Advisor chairs the Eglin Encroachment Committee with all requests/issues are being vetted through the Chairs of the Installation Development Committee, the Range Development Executive Steering Committee and the Environmental Committee as approved by the Air Armament Center Vice Commander.

The Eglin AFB Encroachment Office manages the Encroachment Program and provides staff support to the Encroachment Committee.

In May 2002, The Nature Conservancy requested a meeting with senior officials from the 46th Test Wing to solicit a letter supporting their efforts to secure Florida Forever funding to preserve an area adjacent to Eglin's Northwest boundary known as the Yellow River Ravines. Officials from the 46th TW agreed to support the project, but said there should be efforts to partner for preservation of open space across Northwest Florida in support of mutual strategic interest. This meeting led to the formation of the Northwest Florida Greenway (NWF) Partnership. In September 2002, Governor Bush awarded \$250,000 under the Florida Defense Alliance Grant Program to develop and design an execution strategy for the NWF Greenway under the leadership of an advisory board consisting of representatives from Eglin AFB, The Nature Conservancy, the Florida Department of Environmental Protection, and the Okaloosa Economic Development Council. In December 2002, President Bush signed into law the 2002 Defense Authorization Act which contains language (Section 2811) authorizing the Secretary of Defense (SECDEF) and Service Secretaries to partner with states and conservation organizations to buffer existing military installations and operating areas from encroachment. On 12 November 2003, Governor Jeb Bush signed a Memorandum of Partnership, along with The Nature Conservancy and the Department of Defense, stating a swath of land and air between Eglin and the Apalachicola National Forest would be preserved in order to *"Promote the sustainability of the military mission in Northwest Florida to meet national defense testing, operational and training requirements; and, Protect lands that will sustain the high biodiversity of the region, link protected natural areas, preserve water resources and provide recreation; and, Strengthen the regional economy by sustaining the mission capabilities of the military in the region and enhancing recreation and tourism."* On 1 July 2004, Governor Bush signed the Memorandum of Agreement (MoA), which included the major stakeholders in the Northwest Florida Greenway. Following the July 2004 MoA, the Air Force and the State of Florida required a mechanism to

transfer federal funds to the state for Greenway conservation easement purchase. On 24 September 2004 a Memorandum of Agreement was signed by the Air Armament Center Commander that forged the way for the first initial \$1 million transfer of funds from the Air Force to the State of Florida for the purchase of the Nokuse Plantation, a Greenway project. Programming for future defense funds to be used for purchase of conservation easements is presently ongoing. The future outlook for the Greenway Initiative Partnership is looking very positive with the possibility of \$20 million in federal funds becoming available for conservation easement purchase in Fiscal Year (FY) 2005.

What was done:

The best practice was forming a partnership with the State of Florida (world's largest public land acquisition entity) and The Nature Conservancy (world's largest land conservation agency) and a variety of other stakeholders to preserve open space to protect special use airspace, enhancing the Eglin mission. The formation of a partnership with entities having a common goal was a major change. The Nature Conservancy, the State of Florida and the Air Force were all working independently from each other with individual goals for each agency. Although all the entities were independent, a common goal was eventually recognized leading to the formation of the partnership. The process to make this partnership a reality included a change in federal legislation and numerous agreements with all entities as described above.

How the mission benefited:

The primary mission benefit from the Greenway Initiative is the preservation of the air corridor ensuring Eglin's historic access to regional special use airspace and protecting against urban encroachment. Another mission benefit was the protection of wildlife biodiversity corridors keeping Eglin from being an island of biodiversity. An island of biodiversity would impede Eglin's mission as environmental considerations could have mission impact.

Lessons learned:

The formation of a partnership between the Department of Defense, the State of Florida, and The Nature Conservancy provides a strong coalition for procuring open space across Northwest Florida in support of mutual strategic interests.

For more information:

For more information, please contact the Eglin AFB Green Team, Phone (850) 882-6857.

Know the User's Entire Plan

Issue:

Know the User's Entire Plan

Background:

The mission of Marine Corps Logistics Base (MCLB), Barstow, is to provide infrastructure, services and support to the Marine Corps Forces, tenants, and other customers. The mission of the Range is to develop and increase proficiency of battle skills through the use of small arms training.

There are several primary encroachment issues at or near the small arms range. They include the presence of the desert tortoise (*Gopherus agassizii*) that is listed as threatened by both the federal and state governments, surrounding areas of designated critical habitat, illegal dumping of both municipal and hazardous waste, and trespassing by off-road vehicles.

MCLB, Barstow is in the process of fencing the outer perimeter of the range. This physical barrier will help impede the illegal dumping and trespassing.

Encroachment issues regarding the desert tortoise and critical habitat areas are dealt with as events require. Only a small portion of the range has been designated as critical habitat. On occasion, rogue tortoises wander into the actual firing zone and are dealt with by our Natural Resources Program Manager. Routine operations and maintenance compliance are covered under an existing Biological Opinion for the range.

New construction or repairs of significant size require consultation with the United States (US) Fish & Wildlife Service prior to project execution.

Over the course of 28 months, a past Range Non Commissioned Officer (NCO) submitted six separate requests to make required repairs and improvements to the small arms range. Most of these requests fell outside the scope of the existing Biological Opinion and required consultation with the US Fish & Wildlife Service. Although the Range NCOs were diligent in trying to award these projects with available or special project funds, they were unable to execute on several because there was not enough lead-time built in to obtain regulatory concurrence.

The situation was further exacerbated because the staggered segmentation of these related projects gave the appearance that the Base was trying to downplay the environmental impacts with no consideration of the cumulative effect.

What was done:

Many times decision makers outside the environmental field have no idea of the costs involved and the time or processes required to obtain regulatory concurrence. Once the Natural Resources Program Manager identified the problem, he took the steps necessary to ensure that both mid- and upper-level managers were abreast of what actions were being taken. In addition, he reviewed both their short- and long-term goals noting where potential issues may exist and where opportunities to consolidate efforts could be taken.

To ensure consistency and increase productivity, points of contact were identified who were empowered to make decisions for each organization. These individuals were required to attend all planning sessions.

Before adjourning a meeting, each representative knew the environmental requirements and impacts for any given project or action. When tasks were given out, due dates were also assigned. Although not normally the proponent of the project, the Environmental Division representative would take the lead as "coordinator" to ensure that the critical environmental requirements were met.

How the mission benefited:

After implementing these changes, more projects were successfully executed and regulatory review periods were drastically reduced. This process directly improved the mission of the Range by enabling the instructors to provide more and higher quality training.

Lessons learned:

- Know the actual extent of the work required, even if the work is to be funded over several years. This action ensures that the cumulative environmental effect can be properly addressed.
- Use the same points of contact from *each* organization involved. This improves continuity and maintains corporate knowledge.
- Keep communication flowing in both directions.
- Ensure that the users truly understand the environmental requirements including the associated costs and duration.

For more information:

For more information please contact the Environmental Division, Marine Corps Logistics Base, Barstow, Phone (760) 577-6937.

Military Operations Disclosure

Issue:

Military Operations Disclosure for Southern Maryland Real Estate and the Noise and Accident Potential Zones surrounding the Naval Air Station (NAS) Patuxent River, Maryland.

Background:

The Naval Air Station (NAS) Patuxent River is home to the premier Research, Development, Testing, and Evaluation (RDT&E) program for Naval Aviation. As a Naval Air Station, Patuxent River, which is also host to the Navy Test Pilot School, supports daily aircraft operations on the air station. The base supports four test squadrons that conduct test and evaluation of Naval aircraft.

Patuxent River has established strong relationships with the surrounding communities to ensure that they have the important information about the base's mission and operations. In 1976, NAS Patuxent River completed the Air Installation Compatible Use Zone (AICUZ) study. The AICUZ study outlined the accident potential zones and noise zones surrounding the air station. In 1978, St. Mary's County (which has planning and zoning authority over the land surrounding the NAS Patuxent River) adopted the AICUZ study, map, and the study's recommendations. However, in the past, it has been necessary for the base to comment on property development plans, citing the potential safety and noise issues associated with land use under restricted airspace and near the air station. The community has continued to grow over the last several decades, and land development has moved closer and closer to the station.

During the completion of the Environmental Impact Statement (EIS) for increased flight operations at NAS Patuxent River in 1999, the station received a number of comments from the community regarding noise. The comments led to the establishment of a noise disturbance hotline. The station also increased community awareness initiatives relating to base operations. The need to inform the community about the AICUZ study, the noise and accident potential zones, and base operations became apparent.

What was done:

In 2002, the station began work on a project to create a real estate clause requiring the disclosure of the location and operations at NAS Patuxent River. The base began working with the Southern Maryland Association of Realtors (SMAR), which is the governing body that regulates realtors and real estate offices in the Southern Maryland region. Southern Maryland includes the counties of Charles, Calvert, and St. Mary's. Patuxent River also decided to create a pamphlet on the Accident Potential Zones and Noise Zones.

The Accident Potential Zones and Noise Zones pamphlet informs and educates community residents and the realtors about station activities and the noise and accident potential zones. The goal of this project is to ensure that potential homebuyers, renters, or lessees are aware of the noise and accident potential zones and what to expect from the station's operations.

After completion of the pamphlet, Patuxent River presented the information to SMAR and a number of its members. Included in the pamphlet are photographs of common aircraft flown at NAS Patuxent River, a map illustrating the Noise and Accident Potential Zones, and draft language for a future real estate disclosure clause. SMAR and realtors in the Southern Maryland

region began using the pamphlet to inform potential homebuyers about the base and its operations. The NAS Patuxent River began presenting the pamphlet to the local real estate offices. The station met with hundreds of realtors that work in the Southern Maryland region to present the pamphlet and the noise response program at NAS Patuxent River.

While presenting the pamphlet, the NAS Patuxent River continued to work with SMAR on a future real estate disclosure clause. During meetings with local realtors, Patuxent River received praise for efforts to obtain a disclosure clause. Most of the realtors were very receptive to the proposed disclosure language.

In October 2004, the SMAR decided on language for a military operations disclosure clause for inclusion in the contract addendum for real estate transactions in Southern Maryland.

The Military Operations disclosure clause covers all military installations in the Southern Maryland Region. The clause states:

***“MILITARY AIRCRAFT OPERATIONS:** The Property may be located within or near several military aircraft operation centers located in Calvert County, Charles County, Prince George’s County, or St. Mary’s County. Properties located within or near such military aircraft operation centers may be impacted by varying degrees of noise levels and potential military aircraft accidents as well as noise from gunfire or explosive testing. The following is a description of such military aircraft operations centers, however, the following list is not all-inclusive:*

Naval Air Station Patuxent River, MD., typically conducts flight operations seven days per week, between 8 a.m. and 11 p.m. However, infrequent flight operations occur outside these times. The effects from the Navy’s flight operations extend beyond the boundaries of the naval facility. The present level and type of operations will continue for the foreseeable future. For additional information, contact the NAS Patuxent River Public Affairs Office.

Buyer acknowledges that Buyer, prior to the submission of a written offer to purchase the property, is solely responsible to contact the military aircraft operation centers as identified above which may impact upon the property in order to ascertain the potential noise levels and accident probabilities in relation to the location of the property within or near one or more of the above military aircraft operation centers.”

How the mission benefited:

Enhanced notification to the community creates a stronger relationship with the community and can result in fewer noise complaints. The requirement that homebuyers must review and sign a document that informs them of the location of the military base increases involvement and awareness. The more involved and aware the community is about the military operations, the less conflict over future operations and land.

Lessons learned:

The long-term success and viability of a military installation can be strengthened through community involvement. By providing operational information and explanations, the community feels that it is involved and part of the decision making process at the installation. If the military provides information to the community, they will be more accepting and understanding of the operations and mission at the facility.

For more information:

For more information, please contact the Range Sustainability Office/Operational Environmental Planning Office, NAVAIR Patuxent River, Phone (301) 757-1730.

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Noise Disturbances

Issue:

Noise Disturbances and related community issues for the areas surrounding the Naval Air Station (NAS) Patuxent River.

Background:

The Naval Air Station (NAS) Patuxent River, Maryland, affectionately known as "Pax," was commissioned in 1943. It has since evolved into an RDT&E center of excellence for naval aviation. Pax River hosts the full spectrum of acquisition management, research and development capabilities, air and ground test and evaluation (T&E), aircraft logistics, and maintenance management. This distinctive synergy supports land based and maritime aircraft and engineering, T&E, integration, and life cycle support for ship/shore electronics.

In 1998, Pax completed an Environmental Impact Statement (EIS) to assess the environmental impacts of increased flight and related operations at the installation. During the information-gathering phase of the EIS, the community had the opportunity to comment on the proposed EIS. The level and nature of comments received from the community about noise resulted in the inclusion of noise mitigation measures in the final EIS.

Listed among the mitigation measures outlined in the EIS was the establishment of a noise disturbance hotline. The hotline and the accompanying response process provide a way for Pax to address community concerns about operations.

What was done:

In October 1998, Pax established the Noise Disturbance Hotline. The toll-free hotline provides an avenue for community members to report noise disturbances and obtain information about station activities. The hotline is advertised in the local newspapers and radio stations. The station also promotes the hotline at community events and information exchanges. Once the hotline was in place and made public, the station determined that a centralized Noise Disturbance Response Process was necessary.

Initially, the hotline calls were answered by the Air Operations Department. The Air Operations Department is intimately involved in the operations scheduled on station and could therefore provide answers to callers. The hotline was later moved to the Operational Environmental Planning department and staffed by a public affairs officer. During the initial setup phase of the hotline, there was no standard procedure regarding the way to handle community disturbance calls.

In April 2002, Pax adopted Instruction 3710.14E, Noise Disturbance Response. The instruction established standard operating procedures for recording, investigating, and responding to noise disturbance complaints. The Operational Environmental Planning (OEP) Team became responsible for overseeing the Noise Response Management Plan.

The NAS Commanding Officer gave OEP responsibility for handling the noise disturbance hotline. The OEP team documents and responds to all incoming noise disturbance complaints by following the established procedures. The procedures created a standard on how to handle each noise disturbance call.

OEP staffs the noise disturbance hotline with a communications specialist. The communications specialist has training in community relations and risk communication and answers the noise disturbance hotline during normal business hours Monday through Friday. After these hours, callers may leave a message regarding the noise disturbance and expect to receive an initial callback within 24 hours.

When a community member calls the station about a noise disturbance, the information is recorded and entered into a database. The database provides an automatic e-mail notification to appropriate staff members, station management, and representatives from the flying squadrons about the reported disturbance.

Once all the information regarding the noise disturbance is in the database, the OEP team contacts the Air Operations Department. The Air Operations Department is responsible for investigating the flight operations taking place at the time of the reported disturbance. Often, the Air Operations Department determines that the disturbance was the result of other military activities, not NAS Patuxent River. If NAS activities were the cause of the disturbance, the Air Operations Department investigates the activity to determine which squadron the aircraft is with, the activity or testing the aircraft was conducting, and whether the aircraft was in-compliance with course rules. The Air Operations Department then provides the OEP team with the flight or operation information.

Once the investigation into the activity is complete, the OEP team is responsible for contacting the community member who initially reported the disturbance. The OEP communications specialist provides the community member with all the available information about the activity that caused the noise disturbance. The OEP team explains to the community the process for investigating noise disturbances and that all calls are taken seriously.

The OEP team is also responsible for tracking the reported disturbances and providing quarterly updates to base management on any trends in noise calls or issues.

How the mission benefited:

Maintaining a neighborly, friendly attitude and establishing communication with the community is extremely important to the longevity of any military installation. The mission benefits from the noise disturbance hotline and response process because the community members feel that their opinions and thoughts are important. The community also views the installation as a viable, important part of the region.

The station has made changes, when feasible, to operations as a result of reported disturbances. The Unmanned Aerial Vehicles (UAV) routes resulted in a number of noise disturbance reports from individuals living in a particular area. The station determined that the UAV routes could be changed with limited affect on the operations, but it would eliminate the noise concentration on any specific area. By spreading out the route and the noise, Pax was able to reduce the noise disturbances in that area.

Other changes such as a slight shift in supersonic flight headings resulted from an analysis of hotline calls. These changes resulted in a decrease in sonic boom calls in the affected communities, but did not impact the test mission.

Lessons learned:

Initially, the noise disturbance hotline was placed with the Air Operations Department and personnel. The Air Operations Duty Officer or other available personnel would answer the hotline. This resulted in inconsistent messages relayed to the community. Personnel trained in community relations and risk communications now staff the noise disturbance hotline. A formal procedure for responding to reported disturbances is necessary to ensure the station provides accurate and consistent information to the community.

It is extremely important that the staff answering the noise disturbance calls have the proper training on how to appropriately speak to the public. Providing consistent, accurate messages to the public is crucial in obtaining and securing the trust from the community.

For more information:

For more information, please contact the Range Sustainability/Operational Environmental Planning Office, NAVAIR Patuxent River, Phone (301) 757-1730.

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Proactive Planning

Issue:

Proactive Planning, Being a Good Neighbor, Use of Restrictive Easements

Background:

Pacific Missile Range Facility (PMRF) provides integrated range services in a modern, multi-threat, multi-dimensional environment that ensures the safe conduct and evaluation of training and T & E missions. PMRF delivers quality data products to improve its customer's ability to achieve readiness and other national defense objectives.

The PMRF mission and operational tempo has grown immensely over the past decade. PMRF has been fortunate to be located in an area surrounded by agricultural lands, and air space and surface areas that are virtually encroachment free. Proactive planning has greatly assisted in keeping encroachment from affecting the mission. Through proper planning, PMRF has obtained 30-year restrictive easements for both its launch ground hazard areas and Explosive Safety Quantity-Distance (ESQD) arcs that extend beyond station boundaries. Additionally, an agricultural preserve initiative was recently initiated and obtained by PMRF to keep lands adjacent to the station in agriculture.

Besides proactive planning, promotion of being a valued member of the community and being a "good neighbor" has helped PMRF remain viable. Being open with the public and keeping them informed on upcoming events and issues also contributes in this area.

In the mid 1980's, PMRF was identified as a launch site for target launches supporting the Strategic Defense Initiative. In the process of developing the supporting National Environmental Policy Act (NEPA) documentation, two things became very clear:

1. There was a strong vocal minority opposition to the launch program.
2. The new ground hazard area footprint created by these larger rocket launches well exceeded the station boundary.

Coupling these two facts together, it was apparent that a protester could easily foul a launch by simply entering the off-station portion of the ground hazard area and refusing to move.

The initiative to obtain restrictive easements on the off-station property was instituted. PMRF's reputation in the local community as a respected good neighbor assisted in garnering public support to overcome the vocal minority, and successfully allowed PMRF to obtain easements.

What was done:

Besides proactive planning and being a good neighbor, the best practice to highlight would be the use of restrictive easements. Restrictive easements are a non-invasive, economical way of obtaining or preserving operational capabilities with respect to potential encroachment. Rather than land acquisition, which is a lot more politically sensitive and costly, restrictive easements can often be a win-win situation for both the Range and the landowner. The Range is able to continue or expand its mission, and the landowner in return gets a fair payment for the easement and does not have to give up the property. For all practical purposes in the case at PMRF, the landowner did not realize any appreciable degradation to the current usage of the property.

How the mission benefited:

The Pacific Missile Range Facility was able to establish their Launch Ground Hazard Areas that extended beyond the station boundary. By using restrictive easements, an extremely low-cost, minimally invasive, politically appealing solution was realized. The mission was sustained and the solution even allowed for expansion. It was a truly Win-Win initiative.

Lessons Learned:

The Government does not always need to own property in entirety to successfully complete its mission. While current land use is in place, restrictive easements can preserve the Government's rights to a sustained mission well into the future.

For more information:

For more information, please contact the PMRF Range Communications Officer, Phone (808) 335-4636.

Quick Response to Community

Issue:

Quick response to community-generated complaints.

Background:

Jefferson Range has had few encroachment/sustainability issues, if any. The Range is situated in a rural community. With over 50 years of existence, the local community has become accustomed to the range mission. Noise complaints are the most common issue but have been few during the past 5 years. When a complaint is issued, range personnel immediately contact all parties involved, either in person or by telephone. The unit responsible for the complaint is informed so steps can be taken to alleviate future issues. Civilians issuing the complaint are contacted, the military mission is discussed, and an explanation is given of steps taken to correct the problem.

What was done:

Aggressive response to local community complaints was taken. Jefferson Range representatives attend quarterly Restoration Advisory Board (RAB) meetings established when the former Jefferson Proving Grounds (JPG) was closed during the 1988 BRAC.

How the mission benefited:

Jefferson Range has few complaints from the local community.

Lessons learned:

A quick response to complaints gives the local community an understanding of the military mission and some comfort in knowing efforts are being taken to alleviate future issues.

For more information:

For more information, please contact the Jefferson Range Operations Officer, Phone (812) 689-7295.

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Range and Avigation Disclosure

Issue:

Range and Avigation Disclosure near Barry M. Goldwater Range (BMGR) and Compatible Land Uses around Marine Corps Air Station (MCAS) Yuma Auxiliary Field 2 (AUX-2)

Background:

Marine Corps Air Station, Yuma is the busiest air station in the Marine Corps and supports 80 percent of the Marines' air-to-ground aviation training. Each year the base hosts approximately 50 aviation units for their training deployments, which bring an average 600 aircraft and 9,000 personnel. Public Law 106-65 withdrew and reserved the Barry M. Goldwater Range for military training. MCAS, Yuma manages the western portion of the BMGR, which is approximately 692,000 acres in size.

MCAS, Yuma interacts with its communities on a regular basis so that local leaders have the information they need about the base's mission to make fully informed decisions. Yuma County, which has planning authority over the majority of the area next to the western portion of the BMGR, provides development information to the base for review and comment. In the past, the base would send letters in response to county requests, mentioning the potential safety and noise issues associated with land under restricted airspace and near the BMGR. Armed with this critical information, the County would request landowners to file an avigation or range disclosure statement. Occasionally, a landowner would decide not to file such a document. If the land was rented or leased to a new owner, it was possible that this individual was not aware of the safety and noise issues. The County wanted to ensure that these concerns were provided to all landowners and residents within one mile of the range. The City of Yuma, which has planning authority over much of the land within the base's contour lines, also wanted to ensure similar information was conveyed.

What was done:

In 1983, the City of Yuma required avigation disclosure statements for any land use change within the noise contours and airfield safety surfaces. The applicant acknowledges that they waive *"any right, suit, complaint, petition or other such actions as may impede the use and development of said airfields."*

Since the mid-1980's, Yuma County has required buyers or lessees of property within the noise contours and airfield safety surfaces to file an avigation disclosure statement. This statement acknowledges that occupants of the property *"may be subjected to discomfort, inconvenience and vibrations from military operations."* Additionally, occupants *"should be prepared to accept aircraft flyovers above 500' as normal and necessary to the functioning of the Air Station."*

In 1998, the County adopted the BMGR Range Disclosure Statement requiring owners of land within one mile of the Range to file a Range Disclosure Statement with the Yuma County Recorder's office as a condition of any land use change. This statement informs the applicant that, given the proximity of the BMGR, individuals may be subjected to *"discomfort, inconvenience, and vibrations arising from (but not limited to) ordnance detonations, aircraft operations, slow-moving vehicles, and high energy electronic emitters which may disturb radio and television reception during any 24 hour period. Occupant(s) should be prepared to accept*

such inconvenience or disturbances as a normal part of living near an area of active, around-the clock military operations.”

Instrument Route (IR) 218 (managed by 3rd Marine Aircraft Wing (MAW)) is used by military aviation units to enter the BMGR. Pilots may fly as low as 300 feet and at air speeds in excess of 250 knots. This route may be used by the military at any time. The County, understanding the noise associated with such a low-level aviation route, requires property owners to file a disclosure statement, acknowledging that as the property is *“under Restricted Airspace and/or Military Training Routes, occupants may be subjected to discomfort, inconvenience and vibrations from military aircraft operations associated with nearby Marine Corps Air Station... Occupants should be prepared to accept aircraft flyovers at altitudes as low as 200 feet Above Ground Level (AGL) as normal and necessary to the functioning of the Air Station.”*

In order to facilitate more orderly growth patterns around MCAS, Yuma Auxiliary Field-2, the County incorporated the Aux-2 noise contours and accompanying land use restrictions into the county’s zoning ordinance effective January 16, 2003. These land use restrictions are categorized by accident potential zones and include noise attenuation requirements. Residential uses, including recreational vehicle and mobile home parks within the 65 to 70 decibel (dB) zone, are required to record an aviation disclosure statement. Recreational vehicle and mobile home parks within the 65 to 70dB zone are also required to give tenants written notification that they will be residing in the 65 to 70dB Airport Noise Zone. Subsequently, the Arizona Legislature passed House Bill 2140, 2004 (Chapter 235) which included Aux-2 into the statutory framework that previously included only military airports. These statutory protections include notification, disclosure, noise attenuation requirements, and a compatible land use matrix, which precludes new residential homes not related to primary agriculture use within the 65dB zone.

How the mission benefited:

Enhanced notification provided a greater level of information to landowners, which resulted in fewer noise complaints. Developers and property owners have full information to best assist in their development plans. The requirement that applicants must review, sign, and record a document increases the applicant’s involvement and awareness. These procedures also assist the community to ensure constituents are aware of critical issues.

Lessons learned:

The community will respond to information given to them by the military. The community’s mission is to protect the health, welfare, and safety of their constituents. If the military provides information that makes sense, the community will act on it so that their constituents are better served. It is important to provide a comprehensive perspective when working with communities. For example, if information only relates to the military installation, then the community will focus their efforts on the military installation. It is important to share information on the range and corridors needed to access the range.

For more information:

For more information, please contact the MCAS, Yuma Community Planning and Liaison Office, Phone (928) 269-2272.

Range Complex Commander Designation

Issue:

Designation of a Range Complex Commander Supported by an Advisory Range Complex Management Board

Background:

Southern California (SOCAL) Range Complex mission is to provide all levels of Navy and Marine Corps training in all warfare areas. SOCAL developed a Range Complex Management Plan to deal with encroachment and sustainability issues.

The SOCAL Range Complex is made up of the offshore Operating Areas (air and sea space), the San Clemente Island Range Complex, the Silver Strand Range Complex, the Remote Training Site, Warner Springs and the Mountain Warfare Training Facility, and La Posta. The SOCAL Range Complex has multiple and different users, managers, support organizations, and funding.

The Commanding Officer (CO) of the Naval Base Coronado is the installation commander and Class I and II property owner but does not have operational control or scheduling authority over the range. In addition, the CO of Naval Base Coronado controls the base operating support money but not range operating support money. The CO of the Fleet Area Control and Surveillance Facility (FACSFAC), San Diego (SD) is the scheduling authority but does not control the property.

What was done:

Designation of the CO of the FACSFAC SD as the Range Complex Commander gives him operational control of the range complex. The CO of Naval Base Coronado has administrative control and supports the operational commander. Both CO's will co-chair the advisory Range Complex Management Board (RCMB) which will be made up of range stakeholders from the primary training commands, range users, range managers, and range support commands.

How the mission benefited:

It is expected that unifying a range complex command/management structure will provide the needed comprehensive planning for range sustainability including: requirements, management of range funding, recapitalization, maintenance and modernization, environmental planning, encroachment action, and outreach.

Lessons Learned:

To be determined (TBD)

Implementation at both the SOCAL Range Complex and the Fallon Range Training Complex commenced July 2005.

For more information:

For more information please contact Fleet Environmental/Range Sustainability, COMPACFLT, Phone (619) 767-1566.

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Range Moses Trips

Issue:

Range Moses Trips

Background:

Utah Test and Training Range (UTTR) mission is to train warriors and test weapons. The UTTR conducts annual out-reach programmed visits to areas that have reported high volumes of noise complaints or voiced concerns about Air Force range mission.

The UTTR was experiencing an increase in noise and range complaints from people that lived under or close to the restricted airspace. The UTTR was providing training to large-scale exercises with many different type aircraft that later were used in Operation Desert Storm. The affected people felt like they were victims to the military and nobody cared about what they thought or the experience of living close to a military range.

What was done:

Annually, the UTTR plans and advertises in local newspapers that they will be visiting local communities to educate attendees about the UTTR mission, discuss future changes, and receive feedback from these local residents. The briefings take place in public locations and Air Force advertising materials are provided. The range experienced a 75 percent reduction in complaints from the residents under or close to the range. The residents became supporters of the range and actually want aircraft to fly over their homes and towns. The results were the people felt they were part of the Air Force team. They knew the range cared about their environment and concerns.

How the mission benefited:

The UTTR could actively seek new mission and airspace without concern that local residents would be fighting an expanding mission. The Department of Defense (DoD) today can use their largest footprint weapons, and conduct large-scale exercises to include recovery of space vehicles without negative media from the citizens that surround the range.

Lessons learned:

Ranges need to include local citizens into their future plans to ensure the DoD mission can be accomplished with minimum impact to the environment and a cost avoidance of millions from potential law suits.

For more information:

For more information, please contact the UTTR Airspace Manager, Phone (801) 777-9384.

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Range Utilization Database

Issue:

Airburst Range personnel developed an effective Range Utilization Database.

Background:

The mission of Airburst Range, Colorado is air-to-ground training, and ground fire training. Encroachment and sustainability issues are primarily handled by Fort Carson Army Installation, the host. Noise complaints are handled through maintaining direct contact with the individuals and trying to give them advance notice if anything out of the ordinary is planned.

What was done:

For years there was inconsistency in how ranges reported utilization within and between Major Commands. The regulation was vague. When the regulation was re-written, it spelled out a detailed report format that was very time consuming to record and calculate. As a result, ranges developed their own systems which perpetuated the inconsistency problem. In 1995, Airburst Range started developing spreadsheets to report data. In 2001, the Commander of the Colorado Air National Guard (ANG) took Access classes and started on the task to make a product that would efficiently, accurately, and uniformly record data, calculate and produce reports, and allow rapid retrieval of data.

How the mission benefited:

The current database allows retrieval of any utilization data required to be recorded and many areas that are not required as of yet. The database can be modified and updated by Airburst personnel to meet all Air National Guard needs. It is easy to use and greatly decreases the number of man-hours needed to generate reports while dramatically increasing the accuracy of reporting through built-in error checking. The database quickly and efficiently generates all required utilization reports as well as reports sorting utilization by unit, aircraft type, and munitions for any time period needed. The use of this database has led to more accurate data being reported to headquarters and the National Guard Bureau. It also has made response time for short notice data calls by Headquarters dramatically quicker.

Lessons learned:

Biggest lesson learned is that if you need something done, you need to find the personnel in-house to accomplish it. For years, the ANG Range community had tried to contract or go outside the range community to establish an effective range utilization database and a scoring program, but neither were realized until personnel indigenous to the range community stepped up to the task.

For more information:

For more information, please contact the Commander of the Colorado Air National Guard, Phone (719) 526-3273.

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Recycled Plastic Foxholes

Issue:

Recycled Plastic Foxhole Covers-Green Procurement and Solid Waste Diversion

Background:

Fort Bragg's over 80 ranges contain about 1,000 foxholes which need protection from animals and the elements. Previously, covers were made of purchased plywood that had to be cut out and painted. Each cover had a two-year lifespan and replacement was labor intensive. Construction scraps and old covers were going into the landfill. The wooden covers did not prevent rainwater intrusion and did not prevent wildlife from invading the foxholes. These factors caused potential safety problems for the soldiers.

What was done:

Frustrated, especially by the water that collected in the holes, the Range Chief envisioned something like a plastic table top solving the problem. He went to a manufacturer with the suggested an alternative concept. The new, recycled-plastic foxhole cover was born. The covers are already colored black and white so no painting is required and they are expected to last at least ten years. At the end of the life of the plastic cover, the manufacturer will take the covers back for recycling.

How the mission benefited:

Drier foxholes, fewer splinters, and keeping wildlife out of the foxholes led to better training conditions. Financial and labor savings can be re-routed to other programs. The product satisfies Fort Bragg's green procurement requirements.

The sustainability principle of lifecycle costing illustrates the value of the covers (costing based on 1000 covers):

Foxhole Cover Material Cost Comparison	
Wood	Plastic
Last for 2 years	Last for 10 years
Cost for cover, labor and paint= \$100 per cover	\$180 per (no painting and replacement labor required)
Number needed for ten years= 5,000	Number needed for ten years= 1,000
Cost for 10 year period= \$500,000	Cost for 10 year period=\$180,000
End result	Saves \$320,000

At Fort Bragg, or any other installation at which waste processing space is such a limiting factor, initiatives which minimize solid waste have myriad benefits. For example, potential to prevent loss of training acreage due to creation/expansion of landfills, transfer stations and holding areas. The lifecycle costing shows the savings in dollars. Soldiers are exposed to less risk of animal bites, cuts and scrapes when uncovering and initially entering the foxholes.

Lessons Learned:

Order covers for the largest sized foxhole. Shop around because there may be several companies that produce foxholes covers. Ask the manufacturer if they will take the covers back and recycle them, and have that specification written into the contract.

For more information:

For more information please contact the Chief of Range Control at Fort Bragg, Phone (910) 432-5318.

Space Launch Intrusion Prevention System

Issue:

Preventing marine and airspace encroachment during hazardous launch operations.

Background:

The mission of the 45th Space Wing (45th SW) is “to assure access to the high frontier space and to support global operations.” Satellites supporting National Security, civil and commercial space missions are launched from the Eastern Range. Many missions have very short launch windows. Intrusions into marine and airspace hazardous areas may delay or scrub these launches, potentially impacting National Security and scientific research and exposing the intruder to a potentially hazardous situation. Launch scrubs can also increase launch costs by millions of dollars. With marine and air activities growing in the central Florida area, more launches were being impacted by intrusions into marine and airspace hazardous areas. A process was needed to protect launches from these intrusions.

What was done:

The 45th Space Wing funded a study to determine the best approach to reduce the likelihood of future intrusions. The study team reviewed existing notification procedures and consulted with numerous stakeholders including 45th Space Wing organizations, NASA/Kennedy Space Center organizations, the U.S. Coast Guard, Canaveral Port Authority, local airport operators, launch vehicle companies, commercial/ recreational fishing boat operators/ organizations, and local bait and tackle shops. All organizations and individuals interviewed were concerned about the situation and wanted to help. Information on launch hazardous areas was disseminated to the public media which was helpful; but there was no guarantee that information would be published with sufficient detail for the public to avoid hazardous areas.

Three days prior to a launch, the 45th SW now provides launch hazard maps and announcements to local media (newspapers and TV stations), Federal Aviation Administration, Coast Guard, trade journals, commercial and recreational boaters/fisherman. In addition, the 45th SW provides information on launch hazard areas on its website (<https://www.patrick.af.mil/>), on a toll-free number, and on an electronic sign installed in the waterway in Port Canaveral.

In addition to notifying the public on launch hazard areas, the wing maintains cognizance of public activities that can influence the number of boats and aircraft in the local area. For example, the dates of fishing tournaments out of Port Canaveral are identified on the range schedule. The Wing also gets involved with fishing tournaments early to ensure start and end times will not conflict with launch operations.

The 45th Space Wing’s First Range Operation Squadron Scheduling Office step-by-process is as follows:

- Converts the Range Safety Office’s hazardous area co-ordinates into a user-friendly flyer depicting the hazard area along with common reference points.
- Forwards this flyer to Public Affairs for distribution to the local media outlets.
- E-mails and/or faxes the flyer to local aviation organizations, airport and to charter fishing fleets, marinas and bait stores.
- Provides the National Oceanic and Atmospheric Administration with a script for broadcast over marine radio frequencies alerting boaters of the hazardous events.

- Engages the Coast Guard Auxiliary on the day of launch to distribute the flyer at local boat ramps.
- Ensures the electronic sign prominently displays the hazard warning.

How the mission benefited:

As a result of the 45th SW becoming more proactive in involving the community, the mission benefits by experiencing fewer launch delays and launch scrubs. In addition, the enhanced community involvement has increased community and political support in conducting the 45th SW mission.

Lessons Learned:

- Providing timely information to the public on launch hazard areas results in fewer intrusions, launch delays and scrubs.
- Proactive approach with local community achieved positive results.
- Effectively distributing information on launch hazardous areas to the public is not overwhelming nor is it costly.
- A multi-faceted outreach approach is most effective.

For more information:

For more information, please contact the 45th Space Wing, Spaceport Planning Specialist, Planning and Programming, Phone (321) 494-6063.

Team Approach to Managing Encroachment

Issue:

Team Approach to Managing Encroachment

Background:

The mission of the Air Force Flight Test Center (AFFTC) is test and evaluation of aircraft and weapons systems. The Air Force Flight Test Center has an Encroachment Prevention and Management Committee made up of a multi-disciplinary team that manages potential impacts to the mission. The team focuses on everywhere the AFFTC operates from an encroachment perspective.

Encroachment impacts have many different flavors. Some have frequency implications, while others have airspace implications. There are many different possible implications that can be related to functional areas within the military that might be impacted by the project. If your encroachment program is managed by a single individual it can be very difficult to determine which functional areas might be impacted.

What was done:

The AFFTC has been using an Encroachment Prevention and Management Committee (EPMC) to manage encroachment projects for over a decade. The EPMC is led by the Plans and Policies Division at the AFFTC Headquarters, with functional representation from all pertinent technical areas. They include Operators, Airspace Management, Engineering, Range Management, Environmental, Legal, Frequency Management, Public Affairs, and Civil Engineering. The team has ad-hoc membership from various other installation functional areas and uses senior leadership on projects of critical importance to the AFFTC mission. The team meets twice a month to review projects and stay abreast of strategic program actions. The team uses a single point of contact approach for external communications with jurisdictions.

How the mission benefited:

AFFTC mission is much better protected, by quick access to the functional expertise related to a given project. AFFTC's ability to analyze a project from a technical perspective and produce a coordinated response to the jurisdictional decision makers has greatly improved. This approach allowed AFFTC to meet these external suspense requirements.

Lessons learned:

- Put team leadership at a senior level of the organization.
- Ensure membership is appropriate for the issues your organization faces.
- Attempt to get dedicated people/resources for the team. It is possible that doing this work as an "extra duty" may not allow people to devote the appropriate time to the encroachment program.
- Document the team's processes and get senior leadership buy-in.
- Keep senior leader apprised of the team's actions.

For more information: For more information, please contact the Chair of the Encroachment Prevention and Management Committee, Air Force Flight Test Center, Edwards AFB, Phone (661) 277-2412.

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Telemetry Spectrum Encroachment

Issue:

Telemetry Spectrum Encroachment

Background:

The mission of the Naval Air Warfare Center Aircraft Division, Patuxent River, Maryland is to provide flight test research, development, test and evaluation for the United States Navy.

The US aeronautical flight test community is heavily dependent on access to four portions of the electromagnetic spectrum for telemetering functions. The US Federal Government in the 1920s began allocating the nation's electromagnetic spectrum, originally giving the rights away to applicants based on qualifications, and later based on random selection. In August 1993, Congress passed the Communications Licensing and Spectrum Allocation Improvement Act providing for the sale of spectrum rights.

Eighteen months later, the United States Secretary of Commerce issued the National Telecommunications and Information Administration's (NTIA) "Spectrum Reallocation Final Report" which identified 235 MHz of radio frequency bands (including the military's 1710-1755 MHz band) for reallocation from Federal to non-Federal or "MIXED USE."

On 8 August 1997, President Clinton signed into law the Balanced Budget Act of 1997 (BBA-97) which required the Federal Government to surrender 20 more MHz of spectrum below 3 GHz for future auctions no later than 8 February 1998.

This loss included the 2385-2390 MHz sub-band. This band is used at U.S. DoD test ranges and by the private sector aerospace industry for flight test telemetry for manned aircraft. Since the 2310-2360 MHz band was reallocated in 1992 to the Digital Audio Broadcasting industry, the loss of the 2385-2390 MHz sub-band would mean program schedule slippage and increased range operations costs because only 25 MHz of spectrum (2360-2385 MHz) will be available for aeronautical telemetry in the Upper S-Band.

What was done:

The NTIA negotiated to minimize the reallocation impact. Of the thousands of types of emitters used by Government agencies, just a few dozen were affected to any extent. Most of these lost a fraction of their allocated operating band, meaning their operators would merely have to shift their assignments a few MHz up or down. Only a few major systems, none of them telemetering, were seriously impacted.

Department of Defense mobilized to:

- Ensure there were no more breakdowns in liaison between the DoD and Congress concerning proposed spectrum reallocation legislation.
- Educate all echelons of the DoD on the criticality of access to the electromagnetic spectrum and the threat spectrum encroachment posed to the DoD mission.
- Document and justify spectrum use and possession of remaining frequency bands against further encroachment.
- Predict the access to crucial spectrum assets in the near and far terms. Spectrum access is largely affected by national-level legislating and budgeting concerns.

How the mission benefited:

On 5 October 1999, President Clinton signed into law the "National Defense Authorization Act for Fiscal Year 2000," which required the NTIA *to return* a total of eight MHz of spectrum reallocated by BBA-97. More significant language is contained in Section 1062, which authorized the future surrender of frequencies only if the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the Secretary of Commerce jointly certified to Congress that required spectrum surrender would not degrade essential military capabilities and, where necessary, alternative frequencies with the necessary comparable technical characteristics must be identified and made available to the DoD to restore the essential military capability lost. In July 2002 the DoD was granted frequency migration concessions relative to the 1710-1755 MHz band. Both the 2385-2390 MHz and 2390-2395 MHz sub-bands were returned to the Government for flight test telemetry.

Lessons learned:

- Organize/Mobilize/Educate Your Community: Bringing them in early on encroachment issues focuses their efforts and prevents wasteful duplication of effort. This allows your community to speak as one voice.
- Document/Justify Your Usage Now: Begin compiling the pertinent statistics, usage surveys and position statements now. Keep them updated- the more detailed and voluminous the better. If you do not respond, or respond in what is perceived to be a half-hearted manner, the policy-makers will assume that the candidate spectrum band is not important to you and proceed accordingly.
- Make Relocation their Burden, Not Yours: Facing possible loss of a band or sub-band, press for concessions, exemptions and delays. Request that your legitimate needs be accommodated.
- Don't Be Discouraged: Remember: silence = concurrence. Spectrum encroachment is a long-term issue because radio frequency spectrum is a finite resource that will always be coveted and contested as commercial bandwidth applications evolve.

For more information:

For more information, please contact the Head Mid-Atlantic Area Frequency Coordination Office, Phone (301) 342-1532/1194.

Unintended Consequences of State Tax Legislation

Issue:

Unintended Consequences of State Tax Legislation

Background:

White Sand Missile Range (WSMR) is located in southern New Mexico. Its mission is primarily Test and Evaluation but the range is becoming increasingly active in the joint training arena. WSMR addresses encroachment/sustainability issues through a variety of approaches such as participation in Range Commanders Council, working groups, outreach, interagency coordination, and sustainability planning.

New Mexico had the unenviable distinction of being the only state identified in the Federal Acquisition Regulations whose tax structure makes it inhospitable to Department of Defense (DoD) activities. Consequently, warfighter programs that were best suited for testing at WSMR went elsewhere, often to locations with less technical capability and infrastructure. State legislators were unaware of this impact to potential WSMR customers.

What was done:

The WSMR team acquainted the Governor, state legislators, and other officials with the adverse impact of the state gross receipts and compensating taxes on DoD activities. Over two legislative sessions, WSMR successfully gained exemption of new DoD-associated activities from these taxes. Sustaining the mission requires proactive involvement and situational awareness at state and local as well as federal levels. The best practice is for the installation to be aware of the players, processes, and protocols associated with state/local governance which may impact mission sustainability. The process of interacting with state legislators enabled WSMR to elevate the state's awareness on other sustainability issues such as compatible land use.

How the mission benefited:

WSMR acquired a large program that would have been tested elsewhere, potentially compromising test viability. Other programs are anticipated to follow suit. WSMR has been invited to participate in annual presentations at the state capitol to insure continued visibility of our installation and the role state/local officials can play in its sustainability.

Lessons learned:

- Know your municipal officials and state's elected representatives. Ensure they are well-acquainted with your installation's sustainability issues.
- Aggressive outreach pays off. In the case of WSMR, this included arranging a meeting between the Commanding General and Governor of New Mexico.
- Be aware of potential conflicting interests that can have long-term consequences. The processes and protocols associated with intergovernmental outreach may have applicability in a wide variety of other sustainability-related issues.

For more information:

For more information, please contact the White Sands Missile Range Sustainability Team Action Officer, Phone (505) 678-3960.

Use of Crushed Waste Concrete and Cement

Issue:

Use of Crushed Waste Concrete and Cement on Ranges

Background:

Fort Bragg's training areas consist of miles of dirt/unimproved roads with constant vehicular traffic which damages the vegetation and causes erosion that needs to be stabilized. Range Control uses rock and stone to stabilize the soil on the roads and prevent erosion. However, the aggregate stone is expensive when purchased on the economy.

What was done:

Useful concrete from construction and demolition projects had been streaming into the Fort Bragg landfill. Approximately fifty percent of Fort Bragg landfill material had been construction and demolition debris. In an effort to reduce waste entering the landfill and reduce the cost of soil stabilization, Range Control partnered with the Environmental Compliance Branch to hire a contractor who would crush the concrete on site, before it ever reached the landfill. When crushed concrete ran short, a local cement vendor agreed to sell Fort Bragg residual blocks of cement at 1/3 the cost of new cement rather than haul these relatively small leftovers back to the plant.

How the mission benefited:

Fort Bragg diverted tons of construction and destruction debris from the waste stream, extending the life of the landfill, and redirected saving to other priority projects. Multiple uses exist for crushed concrete including use on a four-lane highway at Fort Bragg's mock Iraqi training village. The cement blocks from the local vendor help replace the expensive soil used on the rifle berms, and aids in prevention of erosion on those ranges. Purchasing the residual blocks of concrete from the vendor also encourages the local vendor to reuse and recycle excess or defective material rather than dispose of it in a landfill. The installation benefits from the cost savings realized from not having to purchase expensive rock and soil.

Lessons Learned:

Ensure ample metal separation capabilities from the contractor. Metal (usually rebar) in the finished product can lead to flat tires.

For more information:

For more information please contact the Chief of Range Control at Fort Bragg, Phone (910) 432-5318.

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Western Maneuver Riverine Range

Issue:

Establishing the Western Maneuver Riverine Range.

Background:

The mission of the Western Maneuver Area-Stennis will be riverine and jungle warfare. The Western Maneuver Riverine Range is in the process of being made a live fire range.

What was done:

United States Special Operations Command (USSOCOM) is in the process of acquiring land, for the Western Maneuver Area Riverine Range. The size of the proposed range is approximately 5200 acres. The western boundaries of this range will directly abut the State of Louisiana across a narrow 40 to 60 foot wide waterway.

The proposed property acquisition will be completed as quickly as practicable, consistent with Congressional appropriations, final assessments, and negotiations with property owners.

Once this Riverine Range is established, public outreach, safety clearance, and coordination of training use will be important in operating the Western Maneuver Riverine Range. Ensuring absolute adherence to firing arcs will be mandatory to help preclude any ricochets going outside the range boundaries.

Prior to every range use, there will be an advance range sweep to ensure that no unauthorized personnel are inside the range boundaries. There will also be strict observance of fields of fire. The range will be properly cleaned up, and the unique riverine range area boundaries will be properly posted and strictly observed.

How the mission benefited:

The Western Maneuver Riverine Range will provide immediate training access for specialized Naval Special Warfare Command (NAVSPECWAR) Special Boat Team TWENTY TWO riverine near shore and inshore warfare forces. The realistic riverine environment will provide required training access to specific estuary/swamp/riverine terrain in order to learn and train in the tactics, techniques, and procedures of conducting riverine/inshore warfare and NAVSPECWAR operations.

Lessons learned:

- Sustained and appropriately informative public outreach, and addressing coordination of range use is key to establishing a range.
- It is important for the military to have realistic training environments of all kinds to be fully prepared for times of conflict.

For more information:

For more information, please contact the Western Maneuver Area Range Programs Director, Phone (228) 813-4000.

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White Space

Issue:

Military exercise/training on Non-Department of Defense (DoD) property (White Space).

Background:

Marine Corps Air Station (MCAS) Yuma is home to a number of unique aircraft and units. One of the units is Marine Aviation Weapons and Tactics Squadron-1 (MAWTS-1). MAWTS-1's mission is to provide advanced tactical training to Marines around the globe and assist with developing the weapons and tactics that Marine aviators use.

MAWTS-1 incorporates a total war-fighting concept in the training called Weapons and Tactics Instructor (WTI) Course. MAWTS-1 conducts two WTI Courses per year producing over 300 WTI graduates each year. The WTI course consists of three phases: academics, a flight syllabus, and a final exercise.

The WTI course academic syllabus allows the WTI candidate to put classroom lessons to work in the air. Briefing and debriefing techniques and airborne instructional skills are reviewed. Tactics and weapons systems employment are evaluated in the flight syllabus. The course culminates in a fully integrated combined arms exercise encompassing all functions of Marine Corps aviation in support of a Marine Air Ground Task Force.

The final exercise phase consists of planning, execution and debriefing of integrated missions in a sophisticated threat environment. The exercise environments include both DoD and non-DoD properties. When the use of non-DoD properties (white space) is necessary to conduct exercises, the MCAS Yuma Community Planning & Liaison (CP&L) office works with the civilian community to obtain authorization to utilize such property. The authorization process includes the City, County, Bureau of Land Management, Bureau of Reclamation, school campus, and private ownership.

Exercise Desert Talon, a landmark training evolution that brings air and ground elements together for integration before deployments to the Middle East, requires that MCAS liaison with these same non-DoD property owners.

What was done:

MAWTS-1 decides on location zones in the community to conduct exercises (e.g. WTI or Desert Talon) and communicates with (CP&L) office to request authorization to utilize non-DoD property. The CP&L office coordinates efforts to request authorization and/or notifies the City, County, Sheriff, Police, Parks and Recreation, Border Patrol, private airfields, private citizens and media of the exercise.

Once authorization had been obtained, a Letter of Agreement documenting the concurrence to utilize private or public non-DoD property is either hand-delivered or mailed to obtain the signature of the owners/managers.

How the mission benefited:

The operator (MAWTS-1) benefits from utilizing non-DoD property by allowing candidates to put classroom lessons to work by training in an urban environment. This training does more than

instruct aviators. It provides Officers from ground combat, ground combat support and combat service support occupational specialties to learn to interact with each other and the air wing.

Additionally, exercises such as these increase public awareness of MCAS Yuma. The strong support by public agencies and private property owners demonstrates that future military exercises are welcomed.

Lessons Learned:

- Previous interaction with the community greatly facilitated civilian approval for military operations in the community. A key aspect of this success was the established working relationship of CP&L Office and the City and County elected officials. It is recommended that a good working relationship with the community be established before engaging in such planning exercises.
- Working the complex issues of coordination between operator and station offices (CP&L, Provost Marshal Office, Public Affairs Office, etc) helped working relationships between those same offices on other issues.
- Do not assume that because you ask another federal agency for support, that you will get it.

For more information:

For more information, please contact the MCAS, Yuma Community Planning and Liaison Office, Phone (928) 269-2272.

Wood Debris on Ranges

Issue:

On-Site Shredding and Use of Wood Debris on Ranges

Background:

Fort Bragg has a 40 acre landfill that has an approximate life expectancy of 5 years. Once the land fill is closed, the garrison leadership will face the difficult choice of establishing a contract to dispose of Land Clearing, Construction, Inert Debris, and Demolition (LCID) waste or constructing a new landfill on limited training land. Fort Bragg currently has a 100,000 acre training area shortfall.

Fort Bragg was disposing of approximately 600 tons of untreated wood waste annually in the installation landfill. Waste included brush from landscaping and clearing operations, construction debris, unserviceable pallets, and range residue. Landfill diversion is a high priority for the Solid Waste Manager.

What was done:

A mobile chipper shredder was purchased which allows wood waste to be processed at the generation point and left on site. Chipped wood is distributed and used in landscaping and other projects on the installation.

How the mission benefited:

At Fort Bragg, or any other installation at which space is such a limiting factor, any initiative which minimizes solid waste has myriad benefits. For example, the potential to prevent loss of training acreage due to creation/expansion of landfills, transfer stations, and holding areas.

With a situation like on-site chipping and use of wood debris, fewer diesel truck runs are needed to take the materials to disposal sites leading to less fuel cost for hauling. Since the Fayetteville area is close to being in non-attainment with the EPA in terms of air quality, any chance to reduce heavy duty hauling also has air benefits. Non-attainment would almost certainly carry training restrictions.

Lessons Learned:

Do not purchase an undersized machine.

For more information:

For more information please contact the Chief of Range Control at Fort Bragg, Phone (910) 432-5318.

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Zoning Ordinances

Issue:

Zoning Ordinance Restricting Heights and Locations of Structures Under Special Use Airspace (SUA) and Military Training Routes (MTRs).

Background:

The mission of the R-2508 Restricted Airspace Complex is test, training, evaluation and experimentation of aircraft and weapons systems. The R-2508 is jointly managed by the Commander, Naval Air Warfare (NAVAIR) Weapons Division, Commander Air Force Flight Test Center and Commanding General, National Training Center. To ensure consistent policy across the entire 20,000 square mile complex, the three commands coordinate communication with the local jurisdictions (city, county, regional and state), and project proponents.

The Tehachapi area of California is one of the most productive wind resource areas in the country. Based on National Green Energy Policy, there is increasing pressure to expand the wind generation capacity in the area from a current 600 to 4,000 mega watts using taller, more efficient turbines. As these turbines get taller, they can significantly impact the low-level (200 feet above ground level) SUA and MTRs that are critical to both testing and training. Turbine heights are currently nearly 400 feet and will exceed 500 feet in the near future. Additionally, the number of turbines and location of the farms can impact critical quiet radar testing areas.

What was done:

The joint managers of the R-2508 worked with the wind industry to identify the areas currently developed and those targeted for expansion. They also formed a Department of Defense (DoD) group composed of operators, airspace experts, and sustainability professionals to define those areas the industry could develop with various height limits that wouldn't impact the testing and training mission. All analyses are Geographic Information System (GIS) based. Kern County agreed to include the provisions of any agreement reached with the industry in its zoning ordinances. An agreement was reached with the industry on height and location limitations using a color code system. On January 25, 2005, Kern County Board of Supervisors approved the ordinance by unanimous approval. (The ordinance 19.08.160 may be obtained through Kern County's website: <http://ordlink.com/codes/kerncoun>)

How the mission benefited:

SUA and MTRs critical to testing and training are protected from encroachment while allowing for increased renewable energy generation.

Lessons learned:

- Early engagement with both individual project proponents and industry associations is critical.
- A GIS system that utilizes accurate data that can be shared with the industry, project proponents and land use jurisdictions is essential.
- Engaging land use decision makers from a regional (joint DoD) perspective is crucial to the success of the negotiations.

For more information:

For more information, please contact the Head of the Sustainability Office, Naval Air Warfare Center Weapons Division at (805) 989-9209 or the Chair of the Encroachment Prevention and Management Committee, Air Force Flight Test Center at Edwards AFB, Phone (661) 277-2412.